DOCUMENT RESUME

ED 254 642 CE 040 841

AUTHOR Attwood, Madge, Ed.
TITLE Visiting Scholars in Education and Work Series, 1980-81.
INSTITUTION Illinois Univ., Urbana. Dept. of Vocational and Technical Education.
PUB DATE Aug 81
NOTE 51p.; Document contains small type.
PUB TYPE Collected Works - General (020) -- Viewpoints (120)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Educational Assessment; Educational Benefits; Educational Legislation; *Educational Needs; Educational Objectives; *Educational Policy; Educational Research; *Educational Responsibility; Educational Trends; *Education Work Relationship; Federal Legislation; Futures (of Society); Influences; Job Training; Labor Market; Liberal Arts; Needs Assessment; Political Issues; Politics of Education; Postsecondary Education; Power Structure; Program Evaluation; Program Implementation; *Public Policy; Research Needs; Secondary Education; *Vocational Education; Youth Employment
IDENTIFIERS Comprehensive Employment and Training Act

ABSTRACT

This monograph presents the views of four scholars concerning the relationship between education and work. In a paper entitled "Research and Evaluation Issues in Vocational Education," John T. Grasso focuses on the responsibility of vocational education to youth. The second paper, "Occupational Training: For Employers, for Trainers, or for Workers?" by Marcia Freedman, addresses the issues of labor market segmentation, education and training requirements for occupations, and problems and prospects in youth employment. Next, in a paper entitled "Coming Changes in Learning, Leisure, and Literacy," Robert F. Bundy discusses the future of vocational education and its relationship to liberal arts education. The final paper, "The Politics of Implementing Education and Work Programs" by Marion W. Pines, examines the politics of implementing Comprehensive Employment and Training Act (CETA) programs in light of the present climate of Federal conservatism. (MN)

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Visiting Scholars in Education and Work Series

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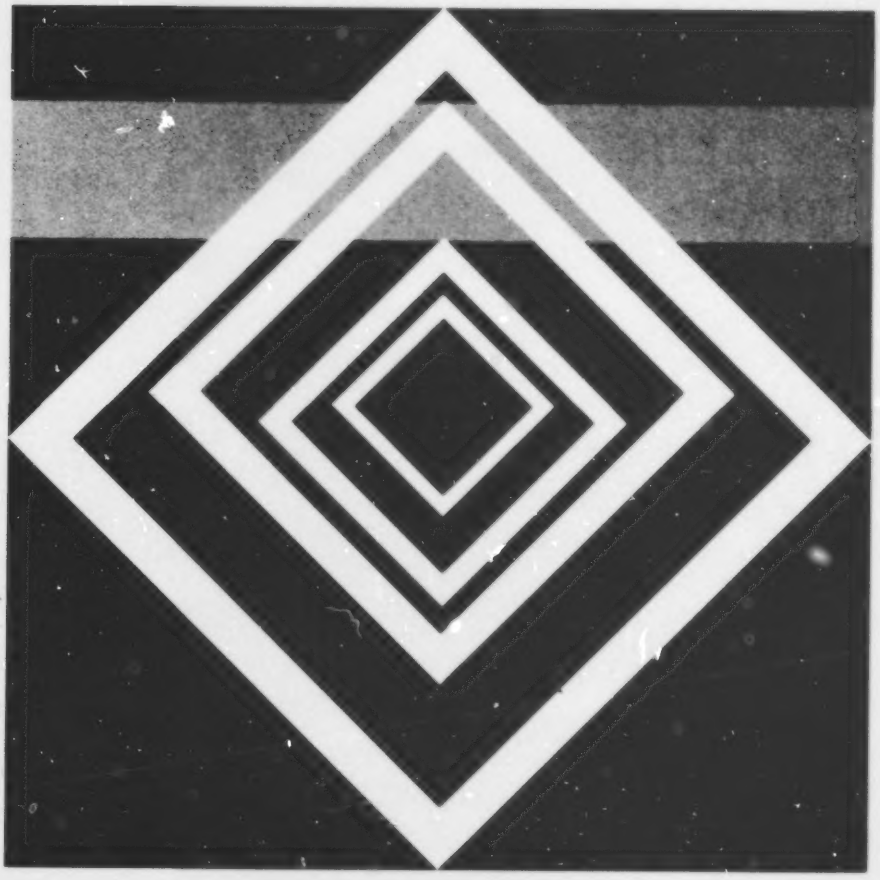

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August, 1981

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Visiting Scholars
in Education and Work Series
1980-81

Robert F. Bundy	Educational Consultant Buffalo, New York February 9, 1981
Marcia Freedman	Senior Research Associate Conservation of Human Resources Columbia University New York, New York November 21, 1980
John T. Grasso	Research Associate Office of Research and Development West Virginia University Morgantown, West Virginia October 27, 1980
Marion W. Pines	Director Mayor's Office of Manpower Resources Baltimore, Maryland April 13, 1981

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Introduction

The Visiting Scholars Series brought to the University of Illinois campus four distinguished speakers who presented different perspectives on education and work at a time when enactment of federal policies was believed to be crucial to the well being of millions of people. The series posed questions about:

- Responsibilities to underserved groups
- Outcomes of popular approaches to education and training
- Nature of work and of the well educated person of the future
- Alternatives in education and training for work
- Bridging the gap between education and work
- Limits of education and training

This monograph presents the views of the four speakers.

John Grasso raises research and evaluation issues as they pertain to vocational education's responsibility to youth. Grasso is a Research Associate in the Office of Research and Development at West Virginia University and Associate Professor in the College of Human Resources. He is the author (with John Shea) of Vocational Education and Training: Impact on Youth, and a member of the advisory panel for the controversial NIE/Vocational Education study. His research on vocational education has led to testimonies before the Senate Committee on Labor and Human Resources, and to consultation on other NIE sponsored vocational education research projects.

According to Grasso, "Some studies based on national data fail to report a market payoff for vocational education programs. These findings suggest that state and local educational authorities, responsible for allocation of resources among programs should examine their outcomes. This will illuminate whether the presumed benefits actually exist and lead to program improvement through choosing and focusing on realistic goals."

Marcia Freedman addresses the issue of the target of occupational training. Is it for the employer, the trainer or the worker? Freedman, a Senior Research Associate at Columbia University, investigates and writes about labor market segmentation, education and training requirements for occupations, and problems and prospects in youth employment. Member of the National Council on Employment Policy, she has written with Anna Dutka, "Training Information for Policy Guidance" as well as a book on the process of work establishment.

Freedman asserts that "There has always been a tension in American education between what might properly be called education and training in the sense of acquisition of occupational skills. As returns to investment in secondary and post secondary education diminished from their high levels of the sixties, more attention has been focused on skill training as an aid to labor market entry. Sometimes this emphasis has led to the neglect of the basic fact; that occupational training is a process rather than an event."

Robert Bundy stimulates thinking about the future of vocational education and its relationship to liberal arts education. Bundy is a poet, a philosopher and an educational planner. Self employed as an educational consultant for the past twelve years, he has worked with groups in the United States and Canada--administrators, teachers, community groups, and professional associations exploring the question, "What will it mean to be an educated person in the twenty-first century?" He was editor of "Images of the Future, 21st Century and Beyond." His Phi Delta Kappan article about the future of education was selected for the 1976 bicentennial issue and by the National Education Press Association for one of two national awards.

He proposes that "Current global trends suggest tomorrow's education person will be different in many respects from the kind of person that suited an industrial, ori-

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ented society. The broad outlines of this new literacy are already visible and will include: a reduction of nationalism and the emergence of a global perspective on human affairs, a movement away from excessive competition to an ethic of cooperation and interdependence, the appropriate use of technology to stay ecologically in balance, a shift from fragmentation in our life and thinking to a sense of wholeness and interconnectedness."

Marion Pines brings a candid look at the politics of implementing CETA* programs in the present climate of federal conservatism. Pines directs the Mayor's Office of Manpower in Baltimore, Maryland, providing leadership for the largest youth entitlement demonstration program in the U.S. and for the demonstration of a number of education/work alternatives to traditional schooling.

For her outstanding service to youth through CETA programs, she received the 1980 Gertrude Folkes Zimand Award given by the National Child Labor Committee. An expert in the politics of implementing federal programs, Ms. Pines serves on the National Council on Employment Policy, the National Council on Crime and Juvenile Delinquency and the CETA Director's Work Group.

According to Pines, the key to successful programs, especially in economically lean times, is a clear and focused agenda. An agenda is essential that includes attention to maintaining or improving the quality of neighborhoods and stimulating economic development as well as improving worker skills and employability.

The Visiting Scholars Series was co-sponsored by the Institute of Labor and Industrial Relations and made possible by a grant from the Illinois State Board of Education.

On behalf of the Visiting Scholars Committee, I invite you to reflect with us on the perspectives articulated by each of the presenters.

Madge Attwood, Chair
Visiting Scholars in Education
and Work Series

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*Comprehensive Training and Employment Act.

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Research and Evaluation Issues
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Introduction

Why is vocational education a good idea? Why, indeed? Presumably, a thoughtful answer to the question should be based upon, or at least be consistent with, evidence from studies of the outcomes of vocational education programs.

Thus, there are reasons for conducting research and program evaluation in vocational education. Findings may be useful for many reasons. Administrators can use findings for program improvement, and for decisions about maintaining, expanding or reducing programs. Legislators can consider findings while making funding decisions. Students and parents can use findings for career decisions. Taxpayers can use findings for drawing conclusions about the effects of their tax dollars. Educators can review findings while considering the questions that realte to the philosophy and policy in American public education.

The vocational education system can be conceived as the embodiment of one type of American educational philosophy. Evaluation and research can illuminate the nature of similarities and differences among vocational education, general education, and academic education. Educators within the vocational education system can also use evaluation and research to better understand elements of their own enterprise, and to discover profitable future directions for it.

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Extent of Evaluation and Research

How much evaluation and research is available for review? How much by way of evaluation and research has been conducted on the topic of the effects or outcomes of vocational education programs? One possible answer may be derived from the results of a recent project.

In September 1980, Robert Taylor, Executive Director of the National Center for Research in Vocational Education, at The Ohio State University, testified before the House Subcommittee on Elementary, Secondary, and Vocational Education, on the effects of vocational education programs. He reported that the Center had recently concluded a review of the literature on the effects of vocational education programs, covering studies reported during the past twelve years (see Mertons et al., 1980). References were gathered through scholarly searches and individual appeals to each of the State Directors of vocational education, and approximately 1500 references were identified for evaluation and research conducted at national, regional, state or local levels.

The review team examined these references, sorting and retaining or discarding them according to their titles, abstracts and the reports themselves, and ultimately discarded more than eighty percent of the references as not useful as sources of acceptable evidence of the effects of vocational education. Studies that were retained numbered 232 for the twelve-year period 1968 to 1980.

It is interesting to note that the regional, state and local studies were further classified into categories labelled "more rigorous" and "less rigorous" based on certain standards for research. For instance, if a study were based on a survey in which the rate of response was low and no attempt was reported to investigate possible bias due to non-response, then such a study was labelled "less rigorous." The critieria adopted by the review team for classification of studies according to rigor were not very stringent: for example, the cut-off for "more" or "less" rigorous on the basis of rate-of-response was only forty percent. Even so, 115 of the 232 studies recieved the designation "less rigorous."

Thus, the review team ended up with 232 studies, about half of which were labelled "less rigorous," as the research production on the effects of vocational education upon participants for a period of twelve years. By comparison, if there had been no national studies, no local studies, no regional studies, but merely one study reported from someone in each state each year, this alone would have amounted to 600 studies, not 232 or fewer. Unless the review team missed a very large number of studies, it may be concluded that the effects of vocational education programs is not a popular topic for evaluation and research.

In fact, thirty-six of the studies were national in scope. Interestingly, in the case of the vast majority of these studies, the authors do not appear to be members of the vocational education community, nor were the authors' organizations part of the vocational education system, nor were these studies conducted with funds from vocational education sources.

Federal Role

Students of human behavior might suggest that persons within vocational education would conduct evaluation and research in vocational education provided that appropriate contingencies are in place. For instance, if funding for vocational education were contingent upon the production of evaluation and research, then it should be forthcoming. However, if there were no requirement for the release of funds, then this activity would only be undertaken if there were other payoffs.

The primary alternative payoff is, of course, the achievement of program improvement. That is, vocational education evaluation and research should be conducted for its own sake, for the natural benefits that flow from such activity in terms of the opportunity to improve existing programs. Logically this should cause the production of more and better evaluation and research in vocational education, especially by the vocational education community.

Legislative provisions enacted by Congress over time seem to reflect the arrangement of external contingencies, in the form of "strings." As far back as the passage of the Smith-Hughes Act of 1917 there were requirements for accountability-type evaluation reports.

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> To participate in the benefits of the legislation, the States were required to...prepare a State plan showing the programs they intend to provide (and) make an annual report to the Federal Board for Vocational Education showing the work done during the year. (Department of Health, Education and Welfare, Panel of Consultants, 1963, p. 22.)

These provisions may be conceived as constituting the first federal requirements for "evaluation" of vocational education, which took the form of reporting for the sake of accountability.

Similar provisions appeared in legislation to renew and expand federal support for vocational education over the next several decades. However, there have been problems even in the accountability-type reports produced. In the last 20 years, national panels have reviewed available information, and reported finding incomplete, noncomparable, and inadequate data on vocational education enrollments, completions, placements, and expenditures.

In the Vocational Education Act of 1963, Congress provided for the establishment of an Advisory Council on Vocational Education in 1966 to evaluate the results of the Act, and to report, with recommendations for improvement, by January 1968. However, the council reported that:

> As the first advisory council on vocational education, we have found it impossible to determine to our full satisfaction what has occurred under the Act... (Evans, Mangum and Pragan, 1969, p. 38.)

Instead, the council found "gaps in statistical data, deficiency in depth of reporting, as well as the lack of adequate standards for evaluation of performance" (p. 39).

Most recently, in hearing prior to the 1976 education amendments, Arthur Lee testified to a continuing lack of uniformity of definitions underlying the data being reported (Committee on Education and Labor, 1976). In response to the continuing incomplete resolution of the problems in evaluation of vocational education, Congress passed the 1976 Education Amendments including what have now been called the most prescriptive provisions for evaluation in history (Stevenson, 1977). These include the implementation by the National Center for Education Statistics of a uniform data reporting system called the Vocational Education Data System. The short history of the implementation of this system is already interspersed with instances of resistance by the vocational community to adopt the uniform reporting system.

Unfortunately, the use of inadequate or inaccurate reporting systems can produce problems even within the vocational system of a state. An example can conveniently be taken from West Virginia data. There, vocational programs are offered to provide training in health and safety matters to persons interested in employment in coal mining. To qualify for such employment, persons must complete a program offered through the vocational system (or through companies or certified private trainers) and pass a test administered by the State Department of Mines. Among other uses, data on program completers is used in analysis of labor supply for the coal mining labor force, and on the need for more or less vocational training.

The annual reports from the Bureau of Vocational, Technical and Adult Education (BVE) contain information that purports to be the final enumerations of persons completing such programs and passing the certification tests. At the same time, annual reports from the Department of Mines (DOM) contain information on the number of persons to whom certificates were issued. Thus, the numbers in the DOM reports should exceed those in the BVE reports, because they should include all the BVE figures plus numbers for persons trained by company and private trainers, i.e., from outside the vocational system. However, the reverse is true. Numbers in the BVE reports are about twice as high as the numbers given by DOM, and one of these sets is clearly incorrect. Analysis based on the incorrect series may lead to erroneous conclusions regarding, among other things, the size of labor supply in the mining sector and the need for any additional vocational programs related to coal mining health and safety (see Table 1).

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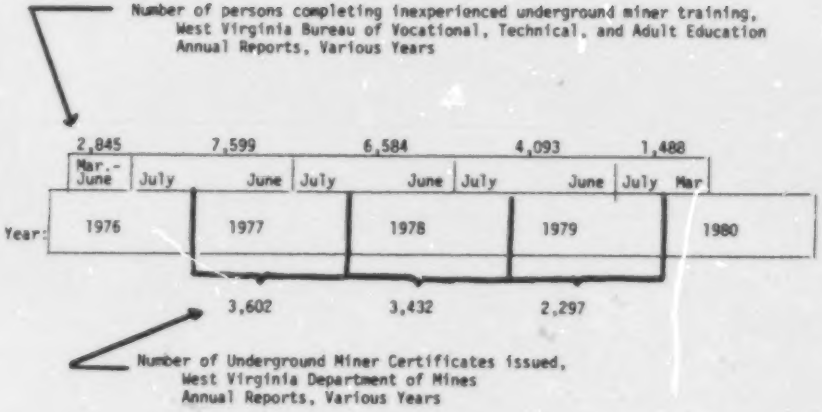
Table 1

Underground Miner Training
and Certification
in West Virginia
1976-Present



Other Factors

If the imposition by the Congress of external contingency arrangements to stimulate the production of evaluation in vocational education is ineffective, why then has evaluation and research not been produced on account of opportunities for program improvement? There are at least three reasons:

1. The commitment of vocational education teachers and administrators.
2. Unreported evaluation and research.
3. Inherent difficulties.

It is important to review each of these other factors that affect evaluation and research in vocational education.

Commitment of Vocational Educationalists

Persons in vocational education are committed to it, and an element of this commitment is the belief that vocational education already is a good idea. Frequently, this belief extends to the assumption that existing programs do successfully produce all the outcomes that are desired all the time. Unfortunately, existing evidence is not supportive. Taylor's review indicates that on virtually every dimension--educational outcomes, psychological, and labor market outcomes--the evidence of the effects of vocational education is mixed (Taylor, 1980). He states (1980, p. 31): "However, at this time, we have been unable to scientifically verify some of the benefits" (of vocational education).

Unreported Activity

A different reason for the limited production of evaluation and research is that a major type of evaluation in vocational education is the use of on-site visitations by advisory teams, which does not result in additions to the research and evaluation literature.

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The on-site visitation is perhaps the most widely accepted method of assessing program quality in vocational education. The on-site team examines materials, curriculum, equipment, and techniques on the basis of standards (that may be regarded as intermediate evaluation criteria) or attempts to observe whether the program is conducted in agreement with its goals and objectives. The American Vocational Association has developed an evaluation model patterned after educational accreditation procedures (Ash, 1973); most States have employed this type of evaluation.

On-site visitation teams can generate findings of their evaluation that may be used for local program improvement (e.g., with respect to instructional methods, materials or equipment). On-site visitation teams may fulfill a valuable role in evaluating vocational education programs, but are unlikely to play any significant role in generating evaluations or research that would have satisfied observers at the national level from 1961 to the present.

Unfortunately, it is also true that even when studies are conducted that result in the production of written reports, frequently information about their existence is not widely disseminated. This has several consequences. Researchers cannot review them. Other vocational researchers cannot build upon them in designating their own studies. Even advocacy groups, such as the National Advisory Council on Vocational Education, are ignorant of their existence and their findings.

Inherent Difficulties

The remaining valid reason for the level of evaluation and research in vocational education is that conducting such studies is no easy task. Taylor has identified several of the research problems:

> Vocational education programs are not uniform across states and localities. A wide range of programs are offered--often with different anticipated outcomes. Courses of studies vary.
>
> Many students cannot be solely identified as vocational, general, or academic students even though this is often stated--rather many students take differing amounts of each of the three types of curricula and cannot be classified into a single category.
>
> Students self-select vocational education. This means they cannot be randomly assigned to treatments. This results in widely divergent types of students with equally divergent purposes of enrolling in vocational courses. A control group against which vocational students can be compared is literally nonexistent.
>
> The state-of-the-art in many of the measurement areas is insufficient to have appropriate and reliable instruments and data collection techniques.
>
> There are many external program factors (e.g., family and economic conditions) that influence student success (placement) during and after program completion (Taylor, 1980, p. 5).

It is important to further explore the problems associated with identifying the outcomes of vocational education and their measurement.

According to Campbell and Stanley (1963, pp. 5-6) twelve factors may jeopardize either the internal or external validity of findings of a study on the effects of an educational program:

1. History or, nonexperimental events.
2. Maturation.
3. Effects of testing.
4. Instrumentation changes.
5. Regression towards the mean.
6. Selection bias.
7. Mortality, or attrition.
8. Selection-maturation interaction effects.
9. Interaction effects between pretest and performance.
10. Selection-treatment interaction effects.
11. Reactive effects of experimental arrangements.
12. Multiple-treatment interference.

Findings known to have questionable validity will typically be regarded as not useful for any purpose. More seriously, when the questionable validity of findings goes

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unrecognized, persons may unknowingly draw unjustified conclusions or make unwise decisions about the educational program in question.

Existing methodology for producing valid findings on causal relationships depends primarily on the capacity of the researcher to design a study that is a true experiment. In true experiments, the researcher uses the random assignment of subjects to the treatment and control groups in order to assure the equality of the groups of subjects and, thus, to circumvent a number of possible problems relating to selection bias. Campbell and Stanley (1963, pp. 13-31) describe three "true experimental designs." All three employ random assignment of subjects.

Authors of evaluations of vocational education may attempt to conceive of vocational education as the "treatment" and of nonvocational programs as the "control condition." However, two factors still preclude the possibility of using the forementioned true experimental designs (e.g., see Campbell and Stanley, 1963, pp. 13-31). First, it is not possible to assign subjects at random to vocational and nonvocational programs; this leaves open the possibility of producing findings that are biased due to nonequivalence in the two groups of students prior to the "treatment." Second, it is equally plausible to regard the program other than the vocational program as a separate "treatment;" this introduces considerable complexity into estimation of program effects (Campbell and Stanley, 1963, p. 31).

In discussion of research on the outcomes of vocational education, Darcy (1980) identifies fifteen major outcomes of vocational programs:

Outcomes:

No. 1. Improving Basic Educational Skills
No. 2. Development of Useful Occupational Skills
No. 3. Reducing the Risk of Unemployment for Minority Youth
No. 4. Acquisition of World-of-Work Knowledge
No. 5. Educational Commitment at the High School Level
No. 6. Development of Leadership Qualities
No. 7. Postsecondary Educational Success
No. 8. Higher Earnings
No. 9. Student Satisfaction with School
No. 10. Reduction of Job-Search Time
No. 11. Satisfactoriness to Employers
No. 12. Area Economic Development Potential
No. 13. Improving the Occupational Distribution of Minority Workers
No. 14. Training-Related Employment
No. 15. Development of Consumer Self-Help Skills

For each of these he presents a plausible evaluation design. These designs may be classified in order to further review the strengths and weaknesses of each.

Comparison Group Design. For most of the outcome measures, Darcy proposed the use of a comparison group design. Scores on an outcome measure (e.g., basic skill tests, graduation rates, post-school earnings) for both the treatment and comparison group are compared. This design resembles Design 10 of Campbell and Stanley (1963, p. 47).

As pointed out by Campbell and Stanley, this design can be called the "non-equivalent control group design," because of failure to employ the random assignment of subjects in order to obtain pre-experimental sampling equivalence. Darcy attempts to minimize this weakness by suggesting that the comparison group match as nearly as possible on factors such as race/ethnicity, mental ability, socioeconomic background and sex.

Unfortunately, even this procedure does not establish the equivalence of groups. Students who enroll in vocational education may still differ from nonvocational students on other factors including their educational goals, their motivation, and their career plans. Whenever these differences exist and are related to performance on the outcome measure, then it is hazardous to attribute the difference in performance on the outcome measure exclusively to the vocational education program. Some differences in performance would be caused by the pre-existing differences in the groups.

One may take an additional step to try to isolate the program effect by applying a form of covariance analysis. This technique attempts to statistically control for pre-existing differences and their effects upon performance while simultaneously producing an estimate of the "net effect," "independent effect" or "unique contribution" of the program. Covariance analysis is also equivalent to certain forms of other techniques:

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e.g., certain forms of multiple regression (see Grasso, 1975). In the ideal case, for each outcome measure that is included in the evaluation, the evaluator would obtain from the literature the precisely appropriate statistical model, collect measures for all the factors that appear in the model, and would modify the model by inserting a measure to represent the vocational program. Then, one could utilize the estimated value of the effect of the measure as the unique effect of the vocational program. Unfortunately, the literature typically does not contain specification of the precisely appropriate statistical model governing the outcome measures for vocational education.

Moreover, recent work has questioned the capacity of covariance analysis to adequately control for differences and their effects (see Grasso, 1979). For instance, the literature on the evaluation of the effects of the federally-funded Head Start program point out that findings are biased when the variables used to control for pre-existing differences are only imperfect measures of the factors they are utilized to represent. Furthermore, Cronbach has recently argued that findings from such analysis may be either over-estimates or under-estimates of the effects of the program and that it is not possible to determine even the direction of error.

Before-and-After Design. The before and after design is suggested by Darcy for two of the outcomes: Development of useful occupational skills, and educational commitment (e.g., school attendance, grades, and attitudes). Darcy suggests that the performance of vocational students be observed before and after enrollment in the program, and that differences be interpreted as an outcome of the program.

The hazard of this interpretation is that extraneous factors may be producing effects on performance during the period of enrollment, and that some or all of the change in performance may be the result of nonprogrammatic factors. For instance, school attendance may improve during enrollment in a vocational program due to general maturation or changes in school district policy which are unrelated to the vocational program. For another example, students may enroll in an auto mechanics program, discover it is a poor program imparting little knowledge or hands-on experience, and begin to systematically seek knowledge and experience out-of-class from friends and family in order to compensate. However, the evaluation using a before and after design might erroneously conclude that the program was responsible for the learning taking place. The primary weakness in the before and after design is in its capability to exclude the alternative plausible hypothesis that the differences in performance were due to some factor other than the vocational education program.

One-Time Survey Design. The one-time opinion survey design is proposed by Darcy in a few cases. In the case of the Outcomes of Development of Leadership Qualities and Development of Consumer Self-help Skills, it consists of surveys of former vocational students to collect their retrospective opinions about the contribution of their vocational education experience in developing certain skills. In the case of the Outcome Area Economic Development Potential, it consists of a survey of organizations and individuals to collect their opinions about the contribution of vocational education programs in the economic development of their local area.

The data collected in such a design should be recognized as judgmental and perhaps biased by the retrospective nature of the questions being asked. It is not clear whether findings from such a design are accurate or valid measures of the effects of a program.

For one of the outcomes Darcy suggests the collection of information from employers of former vocational students. The Outcome Satisfactoriness to Employers has an evaluation design to obtain ratings by employers of former vocational students. Presumably such ratings would be comparative in nature: e.g., former vocational students perform "better," "the same," or "worse" than comparable nonvocational workers in the same jobs.

Such ratings are judgmental and subject to the influence of extraneous factors whenever the criteria are not well-specified. Moreover, employers are being asked to rate current employees working in the same jobs, which implies that the data are confined to jobs or occupations in which both vocational graduates and nonvocational graduates are employed. These are the only cases where comparison in the same jobs is possible. At the same time, it implies that the data are confined to the types of jobs or occupations which nonvocational graduates can obtain; that is, jobs for which nonvocational graduates are qualified to obtain. Otherwise, the current nonvocational workers would not have been hired and/or retained. Thus, both the validity of such information and the proper interpretation of any findings may be debatable.

The outcome Training-Related Employment is based on reports of former vocational students without before-and-after or comparison group designs. Darcy correctly points out that no specific evaluation standard seems appropriate.

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It should be pointed out that the outcome Training-Related Employment is the same as appears in Section 112(b) of the 1976 Education Amendments:

> --112(b) (1) In order for the States to assist local educational agencies and other recipients of funds in operating the best possible programs of vocational education--...
>
> --(B) each State shall evaluate, by using data collected, wherever possible, by statistically valid sampling techniques, each such program within the State which purports to impart entry level job skills according to the extent to which program completers and leavers---
>
> (i) find employment in occupations related to their training.

Unfortunately, data on the extent of employment within training-related occupations provide at best very weak, and at worse misleading, information on impact, owing to substantial ambiguity of interpretation. Findings may be ambiguous whenever non-standardized definitions of "relatedness" have been employed. Any finding should be interpreted in the context of such factors as:

--the timing of the follow-up upon which the data are based,

--the method of data collection (i.e., from the graduates directly, or second-hand from teachers or counselors),

--the definition of training-relatedness,

--the economic conditions facing the graduates, and their responses to employment opportunities by means of changing fields or relocating geographically.

Moreover, findings will vary along with more than one program factor, e.g., quality of the training and extensiveness of placement assistance provided by vocational teachers and counselors. Without more extensive study one would not know their relative importance in producing high or low placement rates. Thus, it is impossible to draw an informed conclusion about the proper course of action for program improvement, continuation, expansion or contraction for vocational education programs associated with any given finding on placement rates.

In addition to these factors, it should be noted that even though the data pertain to vocational programs that purport to impart entry level skills, the program's graduates may have been enrolled for diverse purposes, including avocational reasons. Students may have enrolled because the program represented a compromise choice; that is, the first choice may not have been available. Or, students may have changed career goals for any number of reasons, but did not withdraw. These and other considerations constitute obvious limitations for interpreting placement reports as information on impact. Again, both the validity and meaning of findings are debatable.

Thus, from both the admonitions of Taylor and the foregoing comments on the initially-plausible designs presented by Darcy for fifteen major outcomes of vocational education, it appears that research and evaluation in this field is fraught with difficulties. This complex state of affairs might be conceived to suggest that research and evaluation only be undertaken when some of the problems have been resolved. Unfortunately, adopting such a position is not viable, for the supposition that all problems be solved before any single topic be subjected to research will result in no problems ever being resolved.

Moreover, adoption of such a stance would also be inconsistent with current practice in the actual operation of vocational programs. Teachers and administrators are clearly aware of analogous problems in delivering vocational education: for example, the existence of multiple, and sometimes conflicting, goals of vocational education; the inadequacies of current methodology for measuring the skill levels of students at entry and exit in programs; and the difficulties of devising strategies of achieving desired levels of competence of program completers. Yet, the existence of these problems in delivering vocational education has not caused the termination of activity until all these problems are resolved. Similarly, the problems inherent in conducting research and evaluation should not be cause for cessation of activity in that domain.

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Recent Research Findings

Existing research, although reflecting all of the problems mentioned earlier, has served to stimulate criticism and progress by other researchers. Even if it is impossible to unambiguously interpret the findings, existing studies serve as a basis for discussion for future work. Let me illustrate by recounting some aspects of recent research.

By way of introduction, my own research is based on data from the National Longitudinal Surveys (NLS) of Labor Market Experience including information on young men collected in 1966 through 1973 and on young women collected in 1968 through 1972. The NLS project has been conducted jointly by the Center for Human Resource Research, The Ohio State University, under the direction of Herbert S. Parnes and Michael E. Borus; and by the Bureau of the Census; and has been supported by the U.S. Department of Labor.

This dataset lends itself to research on vocational education for several reasons. First, it contains information on many youth who had participated in vocational education programs, as well as information on others who had not. Second, for each youth in the surveys, it contains information on background, schooling and post-school activity, the latter covering many items that are thought to be important goals or outcomes of vocational education programs. Third, it covers a period of time long enough to include both labor market entry and work establishment, permitting the opportunity to include analysis on both the immediate post-school, and intermediate or longer run experiences of the youth. Fourth, the NLS sample design includes oversampling of blacks, thus permitting analysis of the outcomes of vocational education among white and black youth separately.

Drawbacks of this dataset include, primarily, relatively little detailed information on the high school program of study taken by each youth. Specifically, the only item available in the dataset identifying the high school curriculum of each young person is based on a question posed in the personal interviews. There is no information collected from the school(s) attended by the youth to supplement or to corroborate the youth's self-reported curriculum. Moreover, the data do not permit (except in a few cases) identification of the specialty area of vocational students (e.g., agriculture, automobile mechanics).

In any event, a wide variety of outcome measures are available for use as criteria on which to compare vocational program participants and their peers. These include: attitudes toward school, goals, dropout or high school completion, education attainment, participation in post-school training and labor market outcomes. The latter include: labor force participation, unemployment, wages, occupations, and job satisfaction.

To provide a context for interpreting these remarks, let me reiterate that a great many different types of programs are offered across the country under the name of vocational education. They range from some types of prevocational counseling given prior to high school to highly specific post-secondary occupational training, as in nuclear technology. Programs differ from state to state, and from urban to rural locations. At the high school level the programs are also typically different for the boys than for the girls. At the most general level, vocational education can be conceived to include training in the apprenticeship system, in proprietary schools, in the armed forces, and in business and industry. It is therefore incorrect to speak of vocational education as a unitary commodity. In any event, the existing findings confirm that vocational education is complex and has varied effects.

Student Characteristics. Any discussion of findings on vocational education in high school should begin with the characteristics of the students, especially in light of fears whether vocational education is the "dumping ground" of schools, and also whether vocational education is responsive to the needs of special populations (e.g., minorities, disadvantaged, and handicapped).

National data on male students in high-school-level vocational education show some differences. Some surveys from the early to mid-60's show the average male entering vocational education with lower scores on background and academic aptitude measures than the average male general student; other surveys covering the late 1960's and early 1970's show smaller differences between the male vocational and general students. However, for females, the surveys have consistently shown no pervasive differences in background or aptitude between vocational and general students.

The differences in data for males and the lack of differences among females may be related to the fact that male vocational students are predominantly enrolled in blue-collar specialty programs while female vocational students are found in the Business and

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Office cluster; that is, white-collar clerical training which may require certain verbal and computational skills.

The national data also reveal some differences on attitudes and outlook. Evidence suggests that vocational students tend not to like high school as much as other students, but both vocational and other students tend to like very much the vocational courses that they have taken, and vocational students like their vocational programs. The occupational goals of high school students follow seemingly logical patterns: male vocational graduates are especially likely to desire to work in the crafts, female business and office students in clerical and secretarial jobs, etc. College preparatory students are aiming for professional and technical jobs. The goals of the students from the general program--some of whom are desiring college and others are not--lie between the occupational students' goals and the college preparatory students' goals. It may be said that occupational students desire jobs requiring special skills, but so do their peers.

Enrollment in an occupational high school program is associated on average with relatively low educational goals (especially among white female business and office students), but there are exceptions. For instance, nearly half of the black male vocational students in the 1966 National Longitudinal Surveys desired to attain four or more years of college. This raises questions whether youth possess sufficient information about their opportunities and the consequences of choosing among the various high school curricula. The data are not clear on this. NLS data on tests of the occupational information possessed by youth show that male occupational students know less than their general track peers about a variety of occupations. There is little evidence as to why the vocational students enroll in the programs; i.e., on the extent to which "curricular choice" was voluntary, was based on adequate information about the various alternatives, and so on.

There is a wide array of outcome dimensions for participation in a vocational education program in high school: education and training outcomes, labor market outcomes, social and psychological outcomes. Research with national data has already addressed a number of these areas, but not all of them.

Education and Training Outcomes. One very important area not addressed is the effects of enrollment in vocational programs on level of achievement in basic skills: reading, writing, and computation. It is reasonable to conceive of both (1) positive effects, if vocational students are motivated toward greater academic achievement because they can see the real-world applicability of academic subjects; and (2) negative effects, if achievement is dampened because less time is spent by vocational students in subjects that foster development of basic skills. However, these effects are not currently known.

Another educational outcome where research has not provided answers concerns the effects of vocational programs on stemming high school dropout rates. Research with the National Longitudinal Surveys provides inconsistent findings on this question for the male students. Some of this evidence fails to support the view that vocational programs help boys persist to attain their high school diplomas. The dropout issue is conceptually complex: we still need to know a great deal more on how vocational programs attract students, as well as how they hold the students that they have already attracted.

Vocational programs seem to have negative effects on the total amount of schooling attained, including completion of college. Of course, vocational students do not desire to complete college to the degree that general and college preparatory students do. In fact, as vocational students persist from year to year during high school, evidence suggests that their aspirations for college continually drop.

Nevertheless, after completion of regular school, vocational graduates receive training of various kinds (especially company training). By contrast, graduates of the general track seem to attain more formal school or post-school institutional training (e.g., from business colleges or technical institutes). Among women, it is interesting to note that those who had had some typing or shorthand in high school are relatively more likely than their peers to report additional clerical or secretarial training after high school graduation (i.e., of those who did not go to college).

From all of these findings on education dimensions it is reasonable to conceive of secondary-level vocational programs as alternatives to the traditional academic programs, and of all the curricula as serving both vocational and prevocational purposes. Post-secondary education and training programs of various kinds and the availability of employer-sponsored training provide, in total, a wide array of opportunities for the further development and pursuit of career interests. The vast majority of young persons in the National Longitudinal Surveys who were out of school expressed a desire to

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obtain additional education or training, and this includes graduates of vocational programs. Thus, it is probably unwise to regard high school level vocational education as the best or only opportunity for developing labor market skills among the youth.

Labor Market Outcomes. Existing research on the labor market effects of vocational programs includes studies with the National Longitudinal Surveys, sponsored by the Department of Labor, and with the National Longitudinal Study of the High School Class of 1972, sponsored by the National Center for Education Statistics. Issues of interest include employability and unemployment, wages and earnings, and occupational assignment.

The findings on the effects of vocational education on reducing unemployment among its graduates are mixed; different research approaches have produced conflicting findings. Significantly, it appears that the single most important, dominating factor relating to the unemployment among the young workers in these surveys is the overall state of the U.S. economy.

Analysis of the range of occupations held by high school graduates who did not go to college show that the occupational distributions for each curriculum overlap one another to a great extent. This is illustrated with data from the National Longitudinal Surveys for young whites. Among males, 67 percent of former vocational students held crafts and operative jobs, but so did 59 percent of former general students. Also, while 29 percent of former commercial students held white-collar jobs, so did 25 percent of former general students. Overall, for both males and females, both blacks and whites, having some post high school education or training seems to increase the chances of holding professional and technical jobs. In every level of education, blacks hold lower-level jobs than whites, and females are far more likely than males to hold clerical jobs.

One of the most salient outcome areas considered for vocational education is that of wages and earnings. The evidence seems to vary for different vocational programs. Based on national data, the high school level vocational programs for males seem to lead on average to no better wages and earnings than does the general program. Effects on wages may vary by individual specialty area, or by state or region, but on average the differences are nil. Indeed, some longitudinal evidence also shows that the gains in wages over time may be slower for vocational than for general students.

However, this is not true for female graduates of high school level vocational education programs. Among the females, business and office graduates were found to enjoy significantly higher rates of pay and annual earnings than were graduates of general programs.

Among women, over half of the high school graduates not going to college work in sex-typed jobs, in every curriculum group, but interestingly this did not necessarily mean lower wages. Business and office graduates were especially likely to do so, but they enjoyed a wage advantage over their peers. The findings suggest that women working in non-sex-typed jobs were not necessarily any better off than the women working in traditionally "female" jobs. The effects of holding a traditional job varies by level of schooling and by race, permitting no simple conclusion to be drawn.

Findings also reveal that postsecondary education or training of various kinds produces benefits in wages and earnings for high school graduates of either sex (and, significantly, for high school dropouts, too). The findings seem to suggest that postsecondary programs and training outside of regular school are more effective on the whole than the programs at the secondary level. However, it is also possible that the findings are partly confounded by other pre-existing differences in the students at each level (e.g., motivation and maturity) for which it is difficult to control.

These various findings may suggest a need for greater modesty in expectations for vocational education at the high school level than for the programs at the postsecondary level or outside of formal schooling. At the secondary level, the vocational programs may provide an acceptable alternative to general and academic programs, especially so long as students are exercising free and informed choices when enrolling in these programs, but no evidence for overwhelming positive effects can be found in the national studies completed to date. However, the evidence on post-high school education and training, and vocational training outside of regular schooling does show positive effects in terms of wages, occupations, employment, etc.

There is no clearly-established single reason to explain the difference in findings for the various types and levels of vocational education and training, but also there is no reason to believe that these effects will not continue to persist into the foreseeable future.

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Similarly, there are possible implications to the findings on minorities and on women. Failure to find special advantages for vocational education for blacks may be cause for concern among those who view vocational education as being vitally important for minority groups. Also, findings of pay-offs for vocational education programs for women seemingly contradict the hypothesis that sex-stereotyped enrollments in vocational education lead to occupational sex segregation and cause sex differences in earnings.

Conclusions and Implications

It is interesting and important to think through these seemingly straightforward conclusions and to reconsider the possible implications of findings for policy. Several findings on non-labor market criteria seem to lead to the conclusion that high school vocational programs provide an alternative that students can choose: the courses appear to be congenial; the programs can fulfill psychological needs for many students. At the same time, other findings (e.g., on extent of occupational information, and congruence of curriculum and goals) raise questions about the process through which students enroll in vocational programs, about the guidance and counseling being given, and about the extent to which students exercise free and well-informed choices. In short, the findings appear to conflict with one another and fail to point to a singular conclusion.

The same is true for the findings on labor market outcomes. Findings vary by choice of measure (wages, unemployment, wage growth with experience) and by group (sex).

New data or other research methods with the same data may lead into other directions. Forthcoming studies based on the National Longitudinal Surveys, but using different methods contains some varying findings on the effects of vocational programs for women (Hofferth, 1980; Gustman and Steinmeier, forthcoming). Another study with different data leads to consistent findings for men (Meyer and Wise, 1980). An earlier review commissioned by The National Institute of Education (Grasso and Shea, 1979b) covered a series of studies on vocational education that were based upon national data. However, a new wave of studies has been entering the literature since that time (e.g., Berryman, 1980; Borus, et al., 1980; Gustman and Steinmeier, 1980; LI, 1980; Meyer and Wise, 1980; Nolfi, 1977; Wiley and Harnischfeger, 1980). Further, the Vocational Education Study mandated by Congress to the National Institute of Education, and especially the substudy of the effects of vocational education upon participants, being conducted by the Huron Institute, will soon appear (see NIE, 1980). These studies should be reviewed as soon as they are available.

Another note of caution stems from the worry that our recent evidence is unreliable because it is derived from an historically peculiar period of time, characterized by trends that are passing. For the past fifteen years a major factor for the entire youth labor market has been the sheer size of the post-War "baby boom" cohort.

I have attempted to track the flow of males belonging to the post-War baby boom as they entered the labor force (Grasso, 1977). The first wave of this extraordinarily large cohort of youth began to reach eighteen years of age beginning in about 1965. By about 1970, the flow of new male workers into the labor force had more than doubled.

As time goes on, the effects of all this in terms of recent findings on the effect of vocational education upon participants may be clarified. The impact of other forces also require clarification.

The popular press has begun to describe young workers facing a promotion squeeze, and subsequent cohorts will likely be affected by the bulge of workers preceding them. As young workers flooding their own markets place downward pressure on wages, many young women are assuming new roles, and even in traditional family units, wives are going to work to supplement family incomes. In fact, just as this cohort faces intense competition for jobs, the same is probably true in housing and other consumer markets for goods and services that are especially important for young families. This then affects the level of inflation, which in turn affects the demand for labor and job opportunities.

The existing research should be carefully reviewed in order to determine the limitations of the inferences that can be based on their findings. These studies conceive of programs as interventions which produce desired consequences when they are successful. But, limitations of available data and methods are evident.

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In the context of a multi-goal program such as vocational education, it is difficult or perhaps impossible to formulate the comprehensive set of ultimate evaluation criteria that an adequate pay-off assessment would seemingly require. Evaluators claiming to assess pay-off may be criticized for failure to address important outcome domains.

In addition, by itself, pay-off evaluation fails "to distinguish importantly different explanations of success or failure" (Scriven, 1967, p. 60). William Foote Whyte stated that:

> It does us no practical good to know that a given training program reached a certain objective unless we can also discover what features of that program contributed toward that objective. Only as we make these observational studies, can we have some confidence in being able to reproduce a program that has proven effective (1972, p. 284).

Also, new models and methods are still being developed (Grasso, 1979; Darcy, 1980). For instance, Gustman and Steinmeier suggest that vocational administrators may tend to expand seemingly successful vocational programs until the markets for graduates of the programs begin to be flooded. When this is done, wage differentials favoring vocational graduates may be driven to zero. They suggest that failure to observe a wage advantage does not necessarily imply there are no returns to the training.

These considerations suggest that hasty conclusions drawn from limited findings be avoided. They also suggest that the policy implications of existing findings are not entirely clear.

Aside from all the foregoing there is need for a multidisciplinary perspective in evaluation and research in vocational education. This is clear in the case of the following research question: Does vocational education reduce unemployment?

To consider this question, it is necessary first to clarify the "unemployment" issue in question. When the question is employability, then the contribution of schooling rests on its capacity to develop at least basic skills, as well as advanced or specialized skills. According to recent estimates of the make-up of jobs in the economy, the role of basic skills (i.e., minimum adult functional competencies) should not be overlooked. About 20 percent of jobs in the economy require a baccalaureate degree or more. For about 40 percent of jobs, some type of preemployment preparation or training (less than a baccalaureate degree) is useful, desired, or required (i.e., as is provided in public secondary schools, community colleges, proprietary schools, apprenticeships, etc.). For the remaining 40 percent of jobs, no preemployment training is typically necessary. However, within this last portion of 40 percent requiring little or no specialized training, many of the jobs nonetheless require basic skills (e.g., file clerk) and learning capacity for on-the-job training (postal clerk, locomotive engineer) for average performance and for prospects for career advancement or change. Only a small portion of the economy, perhaps ten percent of jobs, consists of jobs requiring no developed skills (i.e., meager content, unskilled motor activities performed repetitively under very close supervision). The role of schooling is to provide relevant skills, basic and advanced, general and specialized, to enhance employability by enlarging the range of jobs that a worker conceivably could perform.

Workers who exit from schools with less than a high school diploma may be said to have limited employability. Data from the National Assessment shows that such youth are handicapped with limited general job skills. Data from the Public Health Survey show that about one-sixth of teenage males are functionally illiterate (i.e., defined as fourth-grade reading level). It follows logically that such youth would suffer greater-than-average unemployment, merely due to limited employability.

When the "unemployment" issue is the protection of employed workers against involuntary unemployment, the role of schooling is different. Workers are protected from repeated temporary or indefinite layoffs or nonemployment according to the typical experience in the occupation and industry in which they are employed. At the upper extremes of schooling, students are provided with a measure of protection in the form of specialized competencies that are developed. Thus, schooling itself can be associated with relatively low probabilities of layoff and employment termination.

Finally, when the "unemployment" issue is finding and keeping jobs and/or changing jobs without incurring unemployment between jobs, there are different roles for schooling to play, including provision of job placement assistance and counseling, and worker socialization. However, by and large, the educational institutions play a quite limited role in respect to this unemployment question.

Job placement assistance and counseling is most extensively provided at the upper extremes of schooling, through special offices at proprietary schools, com-

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munity colleges, and four-year institutions. Placement assistance is typically more limited at the secondary school level; even in the case of secondary level vocational graduates, many initial jobs are found with the help of vocational teachers, rather than special counseling or placement staff. In any event, the role of placement is also typically limited to initial job placement. Schools do not typically provide systematic development of job-finding skills that could serve the student in job-finding over the working career.

This may result in the situation where most Statewide followups of vocational graduates report low rates of unemployment, e.g., in relation to some comparison group, but findings from longer-run followups may uncover no differences. Thus, the favorable findings from the short-term followup may merely reflect the effects of direct job placement assistance provided by teachers, and may have no implications whatever concerning the quality of the program or the advisability of expanding the programs.

Another opportunity for interdisciplinary research involves the fields of learning theory and counseling. Benjamin Bloom suggests that, given enough time and resources, virtually anyone could learn to do virtually anything. This suggestion points toward fuller development of human talents.

Considering this, one might wonder about students entering some high-school vocational programs. Perhaps not all of these ninth and tenth grade students have sufficient information about their opportunities to exercise informed choice of program. Perhaps some have had inadequate exposure to information about the range of opportunities, or have not yet developed a skill or ability prerequisite to pursuing some other program of study.

Similar logic holds in the reverse case. Consider the case of a youth who is below his peers in reading and math, but who has had some opportunity to learn about automobile maintenance and repair, and who has developed an interest in a program of study dealing with this specialty. Is such a student a good candidate for such a program, or should the student be advised to concentrate on a remedial program in basic skills?

These are the issues underlying the question, "Why is vocational education a good idea?" It may be hoped that future research will illuminate the answers.

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Occupational Training:
For Employers, For Trainers,
or For Workers?

Marcia Freedman

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Visitors from abroad, faced for the first time with our political and administrative pluralism, find it hard to understand how we ever get anything accomplished. Some of us, in fact, become expert in a narrow field where we know the boundaries, the actors and above all, the regulations, in the meantime restraining any impulse to look beyond for fear of distraction by elements over which we have no control. But on the assumption that we can never know too much about the context in which we work, I want to talk about factors that influence occupational training, even if in doing so, I introduce more uncertainty.

I want to begin by setting some limits. By itself, the word "training" is broad enough to encompass general maturation, socialization to work and the workplace, basic education, and a host of other less precise concepts, such as "development," either of organizations or of human beings. The 1980 program for the annual conference sponsored by Training Magazine, for example, lists almost 200 seminar/workshops that cover every conceivable aspect, but is heavy on motivation and interactive skills. These are topics that may prove useful to workers in a broad range of specialties, but I want to confine this discussion to the acquisition of occupational skills, those aspects of the job that must be learned before workers can be identified with the occupational titles that differentiate them from other workers.

Considering just skill acquisition--that is, leaving aside the level of literacy necessary either to get the job or to get the training or both--about one-quarter of all jobs have well-established pre-employment training requirements with a clear transition from school (or training program) to work. These are in turn divided between professional occupations requiring two or more years of preparation in colleges, graduate or professional schools, and a mix of technical, clerical and service occupations that require from three months to two years of pre-employment training. Among the latter, the most familiar are nonprofessional health specialties and the single most numerous category, office clericals. The classic case is typing which is always learned in a classroom setting, but unfortunately, there are not very many skills where the training and entry pattern is so straightforward.

This does not mean that there are no entrance requirements nor does it imply that pre-employment training courses do not exist, but merely that occupational skills are generally learned after employment, on the job. In the insurance industry, for example, training of personnel engaged in customer service, claims adjustment and underwriting is accomplished through self-study or in company classes, using a modular course system in which the highest level is geared to college graduates.

At the lower end of the occupational structure, less than three months on the job--in many cases, much less--is all the time required for adequate performance. The clerical, sales, blue-collar and in service occupations in this category account for about 37 percent of all jobs in the United States. A great deal of work--in manufacturing of all types, in the sale of soft goods, in restaurants and in nonoffice clerical jobs like telephone operator--falls into this category.

In between, but still most typically learned on the job, are a number of skilled and semi-skilled occupations, ranging in complexity from air traffic controllers to auto mechanics. For some of these, the pathways are unique as in the case of air traffic controllers, but in others they are harder to discern. A title like "auto mechanic" actually covers several different jobs, partly because of the competing claims of training institutions, and partly because linkages between these institutions and employers vary from place to place, sometimes even in the same locality.

Meanwhile, there is a cacophony of opinions about methods and sites for training and a proliferation of courses in both public and proprietary institutions. Prospective students may well be bewildered by this array before they choose a program, and for many, the confusion persists after graduation when the promises made by the institution are not met. The right course at the right time leads to placement, but how is one to make this right judgment?

The problem begins with the mixed signals emanating from employers. Everyone has heard them say that all they want is a literate person with the proper attitude who can learn the necessary occupational skills on the job. If that were all, then we would have a large apprenticeship system with varying lengths of training time. But, of course, that is not all there is to it. With some notable exceptions, like IBM and the Bell System, formal training is limited to scope. The majority of firms want to employ fully trained people, but they also want to avoid the costs associated with the training.

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To incur such costs is to risk losing the trained person unless the company is clearly in the position of offering the best available employment in the classification.

Take, for example, the following situation. A large enterprise trains and employs machinists and tool and die makers. In the same labor market, there are a number of satellite job shops, small businesses run by craftsmen with some taste for entrepreneurship. The large company is the only source of supply of skilled workers because in the small shops there is no incentive to train when business is slack and no time to train when demand is high. The situation is considered unsatisfactory, but no one does much about it, except that the large firm will cut back on its apprenticeship programs. The "solutions" to this problem are short run and ad hoc. In this particular industry, swings in demand are frequent so that overtime and moonlighting supplemented by pirating can carry the burden for a time.

In other industries, large firms that must do some training limit the scope in such a way as to tie workers to the firm, a goal that is aided by a somewhat higher wage scale than is paid by other employers in the locality and by the protection afforded to the worker with seniority.

These adjustments are a typically American response closely tied to the short-term outlook of most American firms. I think this is a subject you are going to hear more about in the coming period as U.S. companies begin to search for their diminishing competitiveness in world markets. The attention of American managers is riveted on short-term profits rather than on long-term growth. At most, planning has a five-year perspective, and while the blueprint may pay some attention to managerial and professional personnel, the development of all levels of human resources devoted to production processes is relatively neglected. It is no exaggeration to say that while American industry has led in the development of new products, it has fallen far behind in process technology; in some cases, indeed, the most innovative activity is in the financing of new ideas before a product line has emerged.

A current example is in the high technology boom. On the one hand, new firms, supported by venture capital, have enjoyed spectacular run-ups in the stock market. The hottest issues have been those of the so-called "gene-splicing" companies devoted to the manufacture of modified life forms. Among them are several barely embryonic companies such as Enzo Biochem. As Business Week put it, "Two New York Life officers hired a physicist, and all of a sudden they had a stock that jumped from $6 to $60."

More typical is the acceptance of a short-term strategy that places a premium on continual innovation and being the first to market. "After a year to perhaps two, imitators and so-called second sources enter the market, and prices and margins drop rapidly." The most successful imitators are in Japan where rises in productivity and economic growth are based almost entirely on process refinements, combined with a long-term emphasis that is just the opposite of U.S. preoccupation with short-run profits.

And what does this have to do with training? At one extreme, a company that exists only on paper has no need of workers at all, let alone trained ones. But in the more usual case, short production runs and inattention to quality do little to promote company investments in training; the costs of long-term training are less cause for concern when the payoff is spread over a longer time span. Even at Xerox, an established high-tech company that feels obliged to spend 1.3 percent of its gross revenues--a very large amount--training is concentrated on sales and service for new products, including a "significant proportion" for the production of technical manuals.

By now you will have noticed that one of my underlying assumptions is that learning on the job is an essential part of occupational mastery. Even in those jobs with pre-employment training requirements, entry workers have a lot to learn, as any employer of engineers, MBAs, or journalism school graduates will quickly tell you. In any case, one thing is clear--it is easier to find a classroom off the job where a worker can be directed to pick up a related skill than it is to find a job site for a student to gain hands-on practice. In Illinois, for example, your community college network has made the effort to serve both established firms and newcomers. The Community College Board reported that the colleges provided special job training services for 75 of the 577 new and expanding companies in the period from January 1, 1977 to September 30, 1978, in addition to regular program support of a credit and noncredit nature for 601 companies. I have grave doubts, by the way, that such services play a large role in company location decisions, but no doubt whatsoever that business and the schools can get together when it is in the interest of business to do so.

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Going the other way is more difficult, a conclusion that is supported by the problems of AA nursing programs, not only in Illinois, but elsewhere. Service providers everywhere state a preference for diploma nurses, graduates of three-year hospital programs. Nursing organizations, on the other hand, are pressing for baccalaureate degrees. Meanwhile, the number of diploma schools has declined, in part at least because the shift from service to training made them more expensive at a time when hospitals were increasingly dependent on third-party arrangements that could not be made to meet the costs. Reading between the lines, I think it is fair to say that hospitals see little difference between AAs and LPNs, and in fact, insofar as the latter have more hands-on training, find them preferable. The difficulty in finding sites for practical experience to enhance the value of AAs is part of the problem in producing fully qualified personnel. Here again, employers want experience but are unwilling to be the providers of experience.

In this situation, the life of a trainer is not an easy one. The emphasis on structural unemployment--the mismatch between the demand for labor and the skills of workers--has put a burden on training that it may not be able to bear. In particular, the mandate to improve employability of those at the bottom of the queue, or even of those who suffer only from their youth, is a hard one to carry out in a loose labor market. Failure to achieve placement related to the training program is not easily interpreted in the absence of full employment. Nor is it easy to respond quickly to the rapid swings in the pendulum, from yesterday's emphasis on marketable skills to today's demand for basic literacy, and then, in all likelihood, back again.

Of course, training institutions would like to have their share of the "best" candidates. Unfortunately, when these desirable students enroll in an institution that calls itself a college, they may well expect more in the way of returns on their investment than the institution can deliver. There is, I believe, a natural tension between preparation for a modest job and the expectations of students.

In any case, as formal requirements are raised, or as new levels of personnel are introduced, training institutions are quick to seize the opportunity to expand their hegemony. In this respect, nothing is as valuable as a licensing or certification requirement that specifies what standards new entrants have to meet. The best example is in the expanding health-care industry, which has made the allied health occupations the most important arena in postsecondary voc-tech education.

The problem of simulating work-site conditions in health-related fields is even more serious in other areas. Equipment obsolescence, for example, is a common complaint. A close tie with an industry association may produce up-to-date machines, but not without the occasional irony. In New York City, the printing trades schools has one floor with computerized typesetting equipment that is reserved for the retraining of working printers, while regular students make do with traditional methods. The industry-school relationship is desirable; one would only wish that it extended to preemployment training. More serious because of the lead time involved is the problem of recruiting teachers in certain trade subjects. Improved as they are, salaries are not comparable to industry pay in a chronic shortage situation.

Even under the best conditions, however, secondary schools have to contend with the rising age of entry into full-time work outside of those jobs identified with the youth labor market. An 18-year-old can get a job, but it is unlikely to be career-related in the sense of an orderly progression with long-term prospects that begins immediately after high-school graduation. In Japan, only the young are desirable as new entrants; in the U.S. they advance in the queue slowly as they age into acceptability. What this means is that occupational training in high school is less and less linked to immediate job prospects. The case for continuing to offer such training comes then to depend on its utility for exploration and familiarization. For students with no prior exposure--for example, girls aspiring to enter nontraditional fields--learning the vocabulary of a trade and becoming familiar with tools and their uses makes a contribution to confidence, but only if the curriculum is frankly explained to students as only a first step.

Postsecondary training is more likely to be linked to employment, but here too the probabilities vary by field. From a student point of view, the best situation is one in which the training institution is recognized as a local source of supply, either because the credentials it confers are relatively impeccable or because it is training according to an employer blueprint negotiated in advance. In a field like auto mechanics that has a variety of paths for skill acquisition, this ideal is hard to achieve. Anyone seeking to establish a program has to begin with local knowledge about the employment and training prospects in gas stations, garages, auto body shops and automobile dealerships. At the highest skill level, dealers may be sending their people to company schools. Existing programs, either proprietary or public, may have the market locked up. Meanwhile, informal methods of hiring and training, based on personal networks, may be

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the major source of supply. Whatever the mix, we can be fairly certain that employers will hire the most experienced people before they seek out partially trained or altogether untrained entry workers.

In this field, as in many others, the acquisition of occupational skills is a process rather than an event and it is this understanding that trainers should communicate to students. As the size of the youth cohort increased, the time it took to become established at work lengthened. It may be that as the age profile of the population changes, the time may once again be shortened, but there are too many other variables at work to be sure. Well-trained young workers may have better opportunities in the future, but if I had to bet, I would bet on a labor market that remained fragmented, both in terms of skill requirements and in the typical means of acquiring those skills. In the shorter run, I would also bet that tax breaks and subsidies will have only marginal effects on the hiring of young workers or the disadvantaged or on the promotion of company-based training. Nor do I think that voucher entitlements will improve matters much. In the absence of better information requirements, student choices will be no better, and the rewards may go to schools least bound by ethical considerations to level with the students in advance.

Trainers will still be expected to provide occupationally related skills. And they will continue to be in a somewhat contradictory position. On the one hand, they owe their students a realistic appraisal of the immediate and longer-run benefits to be gained by completing a course of training. On the other hand, they have to maintain some independence from local employers. The positive aspect of good industry relations are clear, but I want to remind you how ephemeral those can be. In the same survey of job-training services that I cited earlier, the Illinois Public Community Colleges listed the number of jobs lost in each college's service area. I would like to know more about how those losses actually affected Lincoln Land, Oakton and E. St. Louis; and I would also like to know if somewhere in South Carolina, for example, these same companies opened new plants that energized the state system there.

Finally, there is a delicate balance to maintain between accountability and risk-taking. Everyone would wish to obviate egregious errors in planning and implementing curricula. But legislators and administrators have to be aware that in an open system, efficiency in decision-making is a goal that can only be approached. Being in the middle does not leave trainers much room to maneuver, and one of the things we badly need is a standard to decide when the problem is poor performance and when it is structural; when it is reversible and when it is too late.

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Coming Changes in Learning, Leisure and Literacy

Robert F. Bundy

As long as I can remember, I have been fascinated with seeing the meanings behind things. Wars, clouds, full moons, the chatter of crickets, life itself, did not just happen and certainly not for the reasons usually given. Behind each event, trivial or profound, lay a deeper meaning, a mystery to be explored, a story of global and perhaps cosmic proportion to be told.

At each stage in my life this fascination with meaning has manifested in a distinct way and over the years has led me into diverse studies: philosophy, theology, chemistry, physics, religion, history, psychology, education and futures studies. About ten years ago the past streams of my life began to merge into a single flow; a specific focus that permitted me to bring together all my past work into a unified effort. This focus can best be expressed as a question: "What will it mean to be an educated person in tomorrow's world?" In different words, given that we live in an age of turbulent change in which older notions of literacy are rapidly passing away--what will people need to know and be able to do in order to live constructive, responsible and humane lives as we approach and enter the 21st century? By educated person, of course, I refer to the whole consciousness, character and humanity of a person and not just what people may be schooled in or trained to do.

For me, this question is profoundly practical. At the same time it allows a search into meaning at the deepest most levels. For does not the process of becoming truly educated encompass every aspect of living and draw attention to every important question one can ask about life?

But ten years ago I also saw that the question I wanted most to study could not be adequately explored through conventional disciplines or fields because of their narrow views. This is not to criticize disciplines but merely to say that something beyond disciplines and even interdisciplinary is necessary if we wish to look at the whole educated person. For me it became clear that I had to foster within myself a more poetic, intuitive understanding of reality; a capacity to see things more holistically; an ability to discern larger rhythms in human affairs; an attunement, if you will, to the broader picture of the evolution of awareness in our long voyage through time.

Whether I have had any success is, of course, your judgment to make. The purpose of this brief prologue has not been to defend me or my ideas but simply to tell you in advance something personal about myself and how I look at the world that may help you to better understand and evaluate my remarks.

To help you in one further way let me also share with you very briefly the key ideas I will be presenting.

First, I will ask you to consider the possibility that global interdependencies, new syntheses of knowledge and emerging images of the future are dramatically affecting our values, beliefs and social imagination. As a result, our basic ideas about work, job, career, leisure and literacy are being fundamentally changed.

Second, I will suggest that the concept of career--seen as one's work to do in life wherein one discovers who one is--is becoming greatly expanded because global shifts are affecting who we understand we are on this little starship earth. Thus, even traditional callings in life are beginning to assume new meanings, importance and consequences. All careers, old and new, will be different in the future because we will be different.

Third, I will propose that liberal arts and vocational education are not the protagonists they are often made out to be. The real contest is between older understandings of liberal arts and the state of current academic/vocational programs. But global changes are even now forcing a revision of these older understandings of liberal arts. As this happens the steam will likely be taken out of the current academic-vocational debate. Both will be seen in a revised liberal arts context as necessary for discovering the art of humane living.

Fourth, I will present the view that in the wake of the global transformations taking place, our notions of leisure are moving from a purely production and entertainment orientation to leisure becoming once again the doorway to discovering deep joy and basic truths. The key to this shift lies in the possibility that one's work to do in life (one's career) can bring the sort of contentment that permits one to enjoy doing

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many things for their own sake. (This is the way the ancients looked at leisure.) By creating a world in which each person can find a work to do in life we lay the foundations for a true leisure society.

And fifth, I will make the case that accompanying all of these shifts a new literacy seems to be emerging--basic changes in thinking, learning, playing and solving problems if we are to live humanely and peacefully on our starship. This new literacy, in my opinion, will cover a spectrum extending from the psycho-motor to the mystical.

All this is rather much to speak about in one address so I will have to be fairly brief at many points. The thread of the story, hopefully, will stand forth and perhaps too there will surface some of the deeper meaning behind the question: what will it mean to be an educated person in tomorrow's world?

The World Drama

Our view of change is largely shaped by the trend indicators and extrapolations forecasters present to us. Thus we are very familiar with discussions of present and projected estimates of GNP, population, car production, wheat stockpiles, pollution levels and so forth. While such information is undoubtedly of value, one can come to believe that these indicators accurately define the fundamental changes taking place on earth at this time. In themselves, however, the descriptors are only symptomatic of much deeper currents of change. The descriptors are like surface ripples formed by these deeper currents. And if we attend to just the ripples we may well miss the real movements, the real world drama, in progress.

I believe we must look at three fundamental shifts if we are to understand at a beginning level what is happening to us on earth at this historical moment.

Global Interdependencies. All of the information on world trends show there is an ever tightening web of interdependencies at every level of existence. On the physical plane we are beginning to realize that earth is a living organism with a very sensitive ecological nervous system. All events--volcanic eruptions, the migration of birds, the rise and fall of tides, cirrus clouds gracefully drifting over the mountains--all are responding to and influencing each other. Nothing happens in isolation. Everything is tied to everything else. Slowly, we are coming to understand the complex rhythms and dances of the natural world.

On the social level, surely, we are very aware of how political and economic systems interpenetrate. How the events of the largest as well as the smallest nation can reach out and influence the entire world. In the same way that nuclear testing in the South Pacific affects the quality of air over Illinois, and the amount of automobile exhaust in North America affects tissue lead levels in penguins in the Antarctic--so too does a political happening in Tehran impact the government decision makers in Bonn, Ottawa and Washington.

The powerful shift taking place in our times is not that natural systems have become interdependent--they always have been. Nor that social systems are involved with one another--they too always have been even if the relationships were not immediately apparent. The real change is that we are becoming aware of these interdependencies as a global community. To our knowledge, nothing like this has ever happened before in the history of the human race.

We can only vaguely see at this moment what new architecture, poetry, music and genetic sensitivities may arise with this changing awareness. The collective human consciousness is stirring, shaking off its sleep and responding to the universe in unprecedented ways. As this shift hastens we will most assuredly create new images of human nature, human potential and human community. The shift will be long in maturing but its revolutionary effects are even now visible for those who wish to see it.

New Syntheses of Knowledge. At the end of the 19th century, scientists felt that Newtonian mechanics and Faraday and Maxwell's electrodynamic theories pretty well explained the laws of the physical universe. In the early 20th century however, relativity and quantum theories introduced a revolution in physics. And as the century unfolded, concepts of space, time, energy, object, cause and effect had to be revised. It was a shattering experience for physicists until they began to learn to ask the right questions and to accept that as they penetrated deeper and deeper into nature they had to give up the images and logic of ordinary language and sensory experience. The maddening paradoxes they confronted could only be dealt with as they learned the paradoxes were problems connected with limitations of the intellect and senses, not problems with the essential nature of things. The point to be made is that an older, established world view now had to be radically changed to incorporate new data.[1]

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It appears that a similar transition is taking place with many of our older social and political theories. The confusion that has come with today's information "overload" is probably due less to increased amounts of information than with our trying to understand 20th century data using views of reality out of the 18th and 19th centuries that don't work very well anymore. In the midst of this confusion however, there is a dedicated search for new world views that can encompass the new information and experiences we are gaining. And a large portion of this search involves syntheses of knowledge from the most unlikely of places.

The new world view taking shape for modern physics, for example, (at least according to one important school of thought) is remarkably close to the view that Eastern mystics have always held about reality.[2] A strange but inevitable synthesis may be happening between mysticism and modern physics.

In a parallel development, a strong interest in the paranormal has arisen in recent decades and its connections with both mysticism and modern physics are being seriously probed.[3] In terms of the latter, Arthur Koestler[4] has pointed out convincingly that modern physics is making claims about reality that are just as wierd as what proponents of the paranormal believe. To many social and natural scientists the task ahead is to find a viable theory to show the continuities between the two and the common life forces underlying each.

It is instructive also to examine the work that is being done in plant and animal communications, altered states of consciousness, biofeedback, meditation, healing, and life after death.[5] The data that is emerging shows clearly that older understandings cannot incorporate our new knowledge without a radical revision, and eventually the building of new models of reality.[6] These new models will become the filters for our consciousness and will have the most far reaching effects on every aspect of life. It is too early yet to know what the world views will become, but some characteristics already seem to be clear.

Reality will be seen as interconnected, continuous and flowing from atom to galaxy; from mineral to mystic; from three dimensional planes to multidimensional levels. Consciousness, at whatever level it is found, will be seen as continually evolving and changing without known limits. Cooperation and synergy among all life forms and social systems will be seen as both normal and essential for survival and growth. Systems thinking will dominate our outlooks rather than the simple, linear causation models of yesteryear. A multi-layered universe of material and non-material reality will emerge again to replace the single-storied house that modern science built in which only the evidence of our senses was felt to be objective and acceptable criteria for truth.[7]

All of this is not to insist that some golden age is about to arrive or that human nature will be cleansed of its imperfections. Rather, it would seem that we are entering a remarkable period in which a merging of certain historical forces is making possible a major step forward in human awareness. The important conclusion I wish to draw is that new syntheses of knowledge are breaking down older world views, changing our concepts of human potential and drawing us into new understandings, values and questions. As a result, the universe is becoming more alive, subtle, connected, evolving, sensitive, profound and promising.

Shifting Images of the Future. More fundamental even than these first two shifts is the transformation now taking place in our images of the future.

Images of the future are those clear, crystallized, focused expectations of the yet to come. They may be positive or negative. If positive, they always speak of a coming world which will be far more perfect and preferable than the present reality. Images of the future pull a culture forward in time. They fire our imagination to contemplate what will come to pass. And at the same time the energy flowing from the images encourage us to behave in the present in ways that will assure their realization. We act as if in some sense the future is already with us now. Images thus explain the past, instill confidence in the present and inspire hope that one day the destiny foretold by the images will come true.

Without an inspiring image of the future no culture can long survive. And as older visions become exhausted new ones must be born or cultural decline is inevitable. Truly, the history of a culture is a history of its images of the future.[8] Whether they speak of a heavenly kingdom, the good life here on earth, or both, images reveal the vitality of a culture and forecast where that culture is headed--vigor and growth or decline and breakdown. Thus, while it may be true to say that the past is prologue to the present, it is probably far more accurate to say that the future is prologue to all of history.

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In our times can there be any doubt that older images which once sustained us are passing away and the climate is ripe for the birth of new visions? Surely no image out of our past gives us assurance of greatness and progress nor inspires us in any collective sense. Instead, we are a culture fearful and unsure of itself; a people trapped in a time zone between visions--unsatisfied with the great images that brought us to this present and unable yet to feel the call of the new images that will shape our future history.

Nevertheless, increasing global interdependencies and new syntheses of knowledge offer powerful evidence that a new vision is beginning to emerge. We can't know our visions in advance, of course, but it is possible perhaps to feel their presence and touch into their energies before they fully manifest.

What I am asking you to consider is that the world drama now in progress is moving us very powerfully in the direction of cooperation, interconnectedness and evolving awareness--all precursors of a whole new vision of the future for starship earth. In turn, these planetary shifts are creating much uncertainty over many of our most basic cultural ideas, especially work, job, career, education, leisure and literacy. The older understandings surrounding these notions will not be able to be maintained in light of the changes now taking place. A global awareness, for example, has to affect how we view our national politics. A real understanding of the physical environment has to dramatically influence how we obtain our food and recycle our wastes. And direct communication with animals has to alter our basic beliefs about justice and equity among living organisms. A new kind of educated person is being born within our midst and when fully matured this person will see many things about life very differently than we do. Consider, if you will, what is happening to our current attitudes toward work, job and career.

Career: A Powerful Idea in Transition

Allow me to define work as the way we identify who we are, the way we make claims about our worth and individuality; the way we prove that life is not futile and we are not forever bound by sheer necessity. Work is a personal space in which we wrestle with life; struggle to find out what our capacities are and what our purposes should be; in which we satisfy our quest for potency--to be good at something and good for something. In work we are able to exercise creativity and insight, together with a sense of style, judgment and craft. Through work we "sing our song." We tell the world whom we are and what meaning we affirm about life. Quite clearly then, one's work to do in life is something that can't be completed or framed in a period less than a lifetime.[8]

Finding a work to do in life is thus essential to being self-actualized. The more one is denied genuine work then the more one will see one's activities as meaningless and depersonalized, and the more one will question one's personal value and worth. The modern cry of depersonalization can at least partially be explained by people feeling they are engaged more in labor than in work; infutility and endless redoing without redeeming merit.

To switch to language more commonly in use today, we can define "job" as the way we earn our livelihood; purely extrinsic utility. Work on the other hand is how we earn our humanity because it is intrinsic to who we are as a person. Ideally, one's work and job will be the same. Nevertheless, one can have a work to do even if it is not the same as one's job.

Career, in its strict sense, means having a work to do in life. It may or may not be the same as one's occupation. In fact we may have many occupations in the course of life and still only have one career. A string of occupations then can be directly connected with one's career or have no significant relation to career.

Discovering a work to do in life, whether it be a healer, teacher, peacemaker, explorer, researcher, etc. is thus not a simple short term quest. If one's work defines who one is then the discovery of who one is will accompany the finding of one's work--a process requiring much time, much self-evaluation and much interior development. This process is long term; indeed, as long as one's life. On the other hand, learning a job hardly requires such effort. Job preparation is a relatively short term goal and may have to be redone many times in the course of one's life.

By maintaining this distinction we can then ask someone who they are (i.e., their work) and how they make their living (their job) and receive two different answers. The educational implications here are very powerful because helping children discover

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who they are and what work they want to express is not necessarily the same thing as teaching them how to support themselves.

So far, nothing particularly new has been stated except to separate the idea of job and work which for several centuries in the west have been considered very close or synonymous. Surely the importance of finding a work to do in life in order to satisfy basic human strivings belongs to all cultures and historic periods. However, the vital question is whether there is anything special to be said about career in our times beyond the fact that there are many more occupations open to more people than in the past--and therefore, perhaps greater possibilities for more people to discover a career? The answer, I believe, is most clearly yes. Because of what is happening to us a qualitative shift in our understanding of career is taking place.

If finding a career (one's work to do in life) is synonymous with one's discovery of who one is, then any major alteration in cultural meanings that affect beliefs about human importance and human potential will most assuredly affect who one discovers he or she is. The global changes I have briefly described do point to fundamental changes in many of our cultural belief systems. To repeat, each person is a global citizen and has global responsibilities and interdependencies regardless of what nation, faith or local group one pledges allegiance to. In addition, each person is part of delicate life support systems. And what each person does influences and is influenced by the entire system. Further, each person is much more than what our empirical senses can reveal. Each person has capacities and possibilities for communication and healing that vastly go beyond the purely physical.

All of these shifts in belief systems form a backdrop for the personal struggle each person engages in, in discovering who one is. (Wheter or not one is clearly aware of this backdrop it will involve itself in the person's struggle.) Thus, while I might find that I have skills that make me a good diagnostician and healer of disease, I am not isolated from the larger cultural scene. I am a healer working in a global community; a healer working within the ebb and flow of natural systems and I must make decisions about patient care that affect the welfare of these systems (as well as decisions about natural systems that affect patient care.) And I am a healer who knows that every part of life from the physical to the mystical must be considered for effective healing. In short, I am a traveler on spaceship earth orchestrating healing therapies consistent with the realities of life and survival on the spaceship.

Similar statements could be made about all other careers. Because our understanding of who we are is changing, then of necessity our work to do will also be viewed differently. We may do many of the same things that healers, teachers etc. have always done, but new ethics and motivations will arise, new criteria for judging the results of our work will have to be developed, and new questions about our work and its conduct will surface. In one sense then, careers will be very different in the future because we will be different. Career, education then, will not be, cannot be what it has been in the past. Nor can liberal arts, academic and vocational education, and leisure remain what they have become in our culture.

Liberal Arts, Academic and Vocational Education, and Leisure: In Search of New Meanings

Liberal arts in its more traditional sense can be summarized in terms of six basic purposes: (1) to overcome intellectual provincialism, (2) to appreciate the centrality of method, (3) to gain an awareness of history, (4) to show how ideas relate to social structures, (5) to understand the way values infuse all inquiry, and (6) to demonstrate the civilizing role of the humanities and arts.

To earlier liberal arts reformers, especially those around the mid-century mark at Harvard, Columbia and the University of Chicago, there was a strong belief that one who has his or her imagination and awareness enlarged through a liberal education will have a deeper sense of personal values, capabilities and self-worth; will be able to make wiser choices and be able to cope better with life's challenges and uncertainties. An essential key to understanding the aims of liberal arts education however, was the provision for a common experience centered around a common learning. The intent was to develop the kind of awareness necessary to integrate different kinds of inquiry and knowledge rather than specialization and depth in any given area. Not that there was anything wrong with specialization and depth. It was the order that was important. Specialization should come later and be built on a firm liberal arts base.

Vocational education on the other hand has traditionally sought to help people enter and progress through the labor market. I need to say very little to you about the purposes and background of vocational education. In this country, vocational education has a long and notable history from the early mechanics institutes to the

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modern programs offered by area vocational schools, technical institutes, community colleges, trade unions and the armed forces.

When conflicts arise today between the guardians of the academic curriculum and the vocational educator certain standard arguments always seem to come up. If you will permit some generalizations, the academic educator wants to help students develop the knowledge, attitudes and skills that will open the widest possible career options. Too early a focus on the world of work and job specialization, it is believed, will foreclose these options. Job skills need to be developed in other settings and at other times outside the academic curriculum.

The vocational educator, of course wants the same good things for students but also sees that many youth are not adaptable to the standard academic fare provided in the public schools; a fare judged to be too broad and impactical given the number of students who do not complete high school, the high unemployment rate in the 18-24 age group, the fact that only a very small percentage of unskilled jobs will be available in the decades ahead, and the fact that the majority of jobs now and in the foreseeable future will not require a baccalaureate degree.

The academic educator thus tends to see vocational training as a step child of the system; a release valve or lower track opportunity for the less gifted or less motivated student who will not be a candidate for upward mobility through the academic structure to the most prized work opportunities offered by the culture. The vocational educator is inclined to interpret this view as both an elitist attitude and an unrealistic assessment of student and national manpower needs. Moreover vocational educators are likely to feel that those who make policy in the public schools are guided by feelings in favor of academic studies. As a result, it is constantly falling to institutions outside the secondary school to train the nation's labor force for jobs. One set of institutions therefore seems to be taking responsibility for career education while the other set focuses on people entering and moving through the labor market.

Of course, a certain number of both academicians and vocational educators argue there must be an integration of the two areas; a new partnership. Given an expanding, more sophisticated job market, our nation will need a more sophisticated population. Thus study in work must be blended with study in academics. Academic and vocational experiences must be united in a new comprehensive program to develop the whole person.

And so the arguments and counterarguments rage. What is missing in this debate, it seems to me, is a sense of the past as well as an appreciation of the way global changes are influencing the future.

As regards the past, there has been a long tradition stretching back to Aristotle, in which it was felt the useful arts were somewhat inferior to the fine arts. However, neither excluded the other. The useful arts were thought to be necessary and the fine arts were felt to be delightful; the crafts served and the arts enchanted. This view held up until the latter part of the 19th century by which time the balance between the fine arts and practical arts had shifted dramatically with the practical taking over the position of the other.[10]

Through the philosophies of people like James Mill, Jeremy Bentham and William Jevrons, a gradual but sure shift to utilitarianism took place in western civilization during the 19th century, i.e., the belief that only useful activity is meaningful and moral. Non-useful activities are a waste of time. Happiness is identified with utility and pleasure with profit. All value is extrinsic and is measured by the profit one can draw from it.

The liberal arts reformers just before and at the mid-20th century mark were thus fighting a losing battle. Bureaucratization, centralization and professionalism, close relatives if not direct descendents of utilitarianism, were rapidly preventing any kind of common shared experience and interdisciplinary approach to knowledge which were considered so important to liberal studies. The humanities and arts were already weakened as the natural and social sciences moved central stage. Everywhere, the academic revolution[11] was being felt and the universities and graduate schools, with their power on the rise, were setting the pace for the entire educational system. Since World War II particularly, the downward pressures from the graduate schools in terms of how knowledge is defined, students are selected, faculty recruited, departments are organized and curriculum written, as well as the constant emphasis on earlier specialization--have undermined most of the ingredients felt to be essential for the liberal arts program.

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Utilitarianism then, in its many forms and for many reasons, has won out to the extent that undergraduate programs have become pre-professional schools; little more than a cut rate, mass produced version of graduate school. Can there be any doubt that the secondary school curriculum in its turn has become little more than a watered down version of the undergraduate program? Without trying to idealize the past or imply there has been some golden age of liberal arts, it is my feeling that liberal arts education is practically nonexistent today, at least in public education.

Thus, the real tension is not between academic and vocational education, but rather between liberal arts as once understood on the one hand, and current vocational/academic training on the other. To view the rift as one between vocational and academic education is to inaccurately locate the real issue. Vocational educators would do well to reassess their position in terms of authentic liberal arts and academic educators would be wise to do the same.

If we look now to the future we begin to get some idea what changes would be necessary in traditional liberal studies for it to be in tune with the global changes affecting our world.

1. First, liberal studies will have to expand, as it has begun to in recent years, to include global history; the rich array of civilizations and cultures that make up the human family and its past rather than a narrow preoccupation with the west. These stories of other peoples however, have to be told from the point of view of valid experiences in human living and not be used for propaganda or exploitation purposes.

2. Second, liberal studies will have to break the chains of rationalism and utilitarianism that have gripped it, especially in recent times. Instead of presenting the confrontation with the great human issues primarily as an exercise in historical notation, scholarly critique or thinly veiled elitism, it is important to lay bare the inner struggles of philosophers, musicians, artists, poets and scientists. It is necessary to show the sources of their inspiration beyond the purely rational; their failures and successes in trying to reveal order in the universe through their art, and how they were influenced by the social/political dynamics of their own social milieu. Most important, however, is that students feel drawn into the same struggles so that in the process their own capabilities to sense the wonder of the universe is strengthened and their own creative talents are aroused and coaxed into expression. The professional needs to be seen not as someone who sets standards for taste and aesthetic feeling, but as the teacher and guide for those who have not yet gone quite as far along the path.

3. And third, liberal studies must open itself to the mystical roots of knowledge. Profound thinkers in every civilization have known there are two pathways to knowledge. One path is rational discourse in which we compare, contrast, abstract, define and argue from premise to conclusion. This is a more or less indirect way of knowing because we have to laboriously analyze, study and deduce. The second way happens when the veil of reality drops momentarily and we see directly to the very essence of things. This way is often called a peak experience or religious inspiration. When it happens, the rational mind is still and there is an immediate penetration to the essential nature of reality.

A utilitarian society only honors the rational method thereby severely limiting the possibilities for the more profound second kind of knowing. An expanded liberal arts education would honor this other mode of knowing once again and be committed to its development and appreciation.

If liberal studies could be opened in these ways, much of the current debate surrounding vocational and liberal education would eventually vanish. An integration of the theoretical and the practical, the fine arts and the mechanical arts, the abstract and the concrete, would lead to an emphasis on the humane art of living. A life of learning is no enemy to a life of action. To achieve such a praxis however, will require teachers who have experienced this praxis and formal curricula that encourage applied learning in real life situations within the community.

But now, where does leisure fit into this picture? Does it have a vital place? Or is it something to be added on as merely another activity the educated person engages in from time to time? Such is the conclusion utilitarianism draws. Leisure is any activity done in our free time that rests us from the various obligations of our everyday world. Its purpose is to distract and amuse us so we can return to our obligations and better perform our tasks. Leisure thus, is a useful activity one performs in some time block and from which one draws both profit and pleasure.

This way of looking at leisure shows how far utilitarianism has pervaded our social imagination. Older understandings of leisure would seem awkward to us. To the ancient Greeks, for example, the purpose of work was to enter into leisure, i.e., one worked

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to free oneself from the necessity of having to work--not necessarily to free oneself from work but the necessity of having to work. Leisure was an attitude of mind, a condition of the soul; the doing of something completely for its own sake; something which in its doing was its own reward. Leisure therefore, bore no relationship to time. One couldn't schedule leisure. (The idea of "leisure time" would have seemed an absurdity to the ancient world.) Moreover, leisure said something about one's character and ideals. And surprisingly, (as far as the modern mind is concerned) the highest aspects of leisure were felt to be prayer and celebration![4]

These older meanings of leisure are almost unintelligible today as is clear from the familiar statement one hears so often that young people need to be trained "to use their leisure time productively"--an outcome hardly desirable even if possible.

Everything must have a purpose and a function in our civilization. The possibility that one might engage in some activity for the sheer pleasure of the activity itself with no further expectations or ulterior motive, seems foreign to our culture unless it can be rationalized into activities that rest us or improve us in some way. The possibility that one might do something in which one has dropped one's preconceptions of what must follow, in which one is open, receptive, spontaneous, playful, harboring no hidden agendas and is non-programmed--seems like a waste of time to today's mind.

And yet this is precisely where leisure begins in the more ancient view. Recreation and entertainment rest us from our work but we work to enter into leisure--not the other way around. The further possibility that there are certain activities that must be done for their own sake if they are to be authentic (prayer, music, poetry, etc.) also escapes us, so attuned are we that even these activities must have some purpose beyond themselves. Small wonder then that there is so much disease in a society that substitutes recreation and entertainment for authentic leisure.

It would seem a miracle indeed if the essence of this older notion of leisure could be recovered in our time without its aristocratic ideals and institution of slavery. A culture like ours that marches to the tick of the clock and is attuned to the pulse of the machine; a culture dominated by a work ethic and utilitarianism; that honors intellect and rationality as the only pathway to knowledge; that prides itself on its mass consumption appetites and desire for bigness--such a culture hardly seems the seed ground for the older attitude toward leisure.

And yet, something of this sort may be in the very process of happening. Much disenchantment with the superindustrial dream and much concern over the social casualties of this dream have surfaced in recent decades. Outrage at bureaucratic impersonalization and anger at the huge institutions that control more and more of our lives have increased steadily. Moreover, each year greater numbers of people seek out alternative life styles and alternative experiences to raise their consciousness. Perhaps it is too soon to assess these movements but one is tempted to believe that on the one hand more people are beginning to reject Madison Avenue definitions of human happiness and on the other are saying there is more to them than our materialistic culture says there is. This conclusion is clearly in accord with the global changes previously discussed. A recovery of the older essence of leisure then becomes a distinct possibility.

But how would this happen since we are not likely to throw out right away our attitudes toward the work ethic and utilitarianism? The answer lies in the basic notion of work. If we accept the idea of a work to do in life, then in the struggle to find out who one is one will develop some competencies, i.e., do some things well that one can esteem in one's own eyes and in turn be esteemed by others. Certainly, then, in disclosing who one is, one can expect to obtain some satisfaction and contentment in what one can accomplish. It is precisely here that the door opens to leisure. For a contented person is in a position to engage in many activities for their own sake.

Developing a leisure society then does not mean creating a massive recreation industry to find ways to keep people occupied constructively when away from their jobs. This is the utilitarian approach of superindustrialism. A leisure society becomes possible if the people in that society have the opportunity to find a work to do in life. This does not mean there are no jobs, because many jobs can be happily discharged as long as the people who have these jobs also have a work to do in life. The larger the number of people however, who only have jobs indicates how far a culture is from a true leisure society. For people who only have jobs are in need of institutionalized recreation. They must be kept busy and amused or they will always be ready to erupt into violence.

The relationships between a true liberal arts and vocational education experience are now easy to see. The integrated curriculum helps one to discover a work to do in life in which one can do something well, and therefore the capacity to be contented

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and to enter into true leisure. In the process of discovering one's work to do one will learn experientially to love knowledge and beauty (and why one so loves) and at the same time be able to translate what one knows into practical everyday tasks and living. Both liberal arts and vocational training then can lead to contentment and personal satisfaction: the great door to leisure. What becomes crucial is to identify the skills necessary for young people to have these experiences; skills that extend across the entire literacy spectrum from the psycho-motor to the mystical.

Literacy for the New Age: What Will It Mean to be Educated?

In the following I will touch only briefly on a number of areas of literacy that seem critical for the New Age we appear to be on the verge of entering. I won't discuss these areas in any rigid order of importance or try to suggest what a New Age curriculum might look like. Instead, the following are merely some examples of the kind of literacy that seem to be consistent with the great global forces moving us into the 21st century. Let me add that the facets of literacy I will describe do not refer to what needs to be learned sometime in the future-- but rather what I believe needs to be a part of today's educational process.

Low Energy Technologies. Every student ought to have an intimate knowledge of windmills, solar cells, fish farms, methane generators, composting toilets, wave pumps and the other low energy tools that can be used for food and energy production. These tools can be made relatively inexpensive and therefore widely available. They are easy to share, repair and use; are safe, non-violent to the environment and encourage decentralized, self-sufficient systems. Use of these tools shortens the gap between producer and consumer and replaces the very vulnerable high-energy loops that have become so much a part of the superindustrial society.[13] In certain instances, these tools represent older technologies (e.g., windmills, solar heaters, solar ovens) that have been modernized and made more efficient. In other instances, these low energy tools are new (e.g., solar cells, wave pumps, etc.). By combining the modernized old with the recently developed new, in concert with minicomputers and other electronic control devices--these low energy systems become highly practical for our times.

In the more distant future, some clean, inexhaustible and inexpensive source of basic energy may be found. But for the foreseeable future, a comprehensive understanding of the low energy tools will be essential to permit the transition away from an over dependence on high-energy technologies and non-renewable energy sources. Moreover, even with an inexhaustible source of basic energy, the use of decentralized low energy tools powered by this energy will, from the human standpoint, still be preferred over hugh centralized facilities for production and distribution of food and other necessary commodities.[14]

There are many additional kinds of low energy tools that would be found useful in other areas of living. For example, it will be a common experience for literate people to responsibly share and teach one another about the tools of healing. The same will be true for the low energy tools of learning. In short, being able to use low energy tools in all aspects of life will be an essential part of literacy for the future.

People Loyalties. Helping people to develop loyalties to each other more than to large institutions will be a fundamental part of New Age literacy. This means bringing back a lot of old fashioned virtues such as honesty, integrity, faithfulness, keeping promises, cooperation, trust; the belief that people are basically happier when they can care for and depend on one another; the belief that enduring human functions cannot be given over to huge technologies and anonymous institutions without destroying the very life and heart of a culture.

Desire to Personally Make. People cannot ever be totally self-sufficient but they can learn to personally make or do more often, instead of having a constant reliance on the pre-packaged services of huge institutions. I mean here an instinctive, habitual attitude in which one's first response when a problem presents itself is to ask what one can do or make (or what "we" can do or make) to solve that problem.

New Reality Constructs. As I mentioned earlier, we need new ways of looking at reality if we are to understand our global interdependencies, discern the emerging syntheses of knowledge, and touch into the energies that are even now streaming from our coming vision of the future. What will these New Age constructs be? Spaceship Earth? Planetary Citizenship? Cosmic Health? (An awareness that health means being in harmony with one's spirit, mind, emotions and physical body; that all physical disease is but a symptom of and clue to a deeper internal disharmony.) The develop-

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ment and teaching of concepts, metaphors, and analogies appropriate to the New Age are probably the most exciting challenges in all of education today.

Knowledge and Skills to Use Organizations. Unlike the past when one or two institutions dominated the cultural scene, today we live in a society of organizations.[19] Everytime we identify an important social task we immediately attempt to institutionalize this task. Increasingly we give to large organizations the discharge of all important social responsibilities. Modern organizations thus exert enormous influence on our lives. They shape our behavior, largely determine the quality of life and become one of the primary ways for social control and social change. Most of us spend most of our time in, interacting with or dependent on organizations to provide our options for jobs, mobility, health, education, recreation and other services. In many respects, organizations have become our primary environment much as land and nature were the primary environment for pre-modern peoples.

To cope with these organizations, to reduce their size, to decrease our chronic dependency on them, to redirect their power and influence, so that institutions can genuinely contribute to human needs--tomorrow's educated person will have to thoroughly understand everything about organizations and how to use them with the same facility the craftsman of yesterday used his or her tools.

Future Cognition. I mean here an ability to contemplate the future (one's own and that of the larger society and world) in as natural and comfortable a fashion as one thinks about the past and present.

Self-defined Work. As I previously mentioned, a self-defined work to do in life is markedly different than merely having a job or an occupation. Tomorrow's educated person will understand clearly this difference and be able to describe what his or her work to do in life is--tentatively and in general terms at first during the early years, but progressively in more detail and depth as maturity comes.

Leisure as the Center of Life. Tomorrow's educated person will fully understand what leisure means, how leisure differs from recreation and entertainment and how leisure relates to work and job. The literate individual will perceive leisure to be the center of life, the very basis of culture; that it is only when one is in leisure the most profound truths can be seen; and finally, that sickness always comes to one deprived of leisure for any length of time.

The Capacity to be Centered. In the superindustrial consciousness, inordinate weight is placed on rational ways to know. In the New Age, rationality will have an important place, but it will be balanced and complemented by one's intuitive faculties. Essential training therefore will be to help people learn how to quiet the intellect and open up to their inner self; a development of one's poetic and irrational ways to know.

Unity of All Reality. This capacity to be centered is also crucial for helping people see the unity of all reality; how all things are connected and interrelated; how the health of our natural environment is involved with the health of our body and spirit; how our social, economic, political and psychic world are interwoven. The educated person in the New Age will readily understand what Francis Thompson meant in his poem when he spoke of the connection between a falling leaf and a distant star.

Long Term Perspectives. Having future cognitive skills, discovering a work to do in life, being able to enter into true leisure--permits people to bring long term social, economic, environmental and spiritual perspectives to personal and social decision making. In the New Age gone will be the emphasis on short term gains and crass situational ethics that was so much a part of the superindustrial worldview.

Openness to New Revelation. It will be a fundamental part of tomorrow's literacy to understand there is an ongoing revelation about the ultimate questions of human existence, i.e., no final answers have been given to the questions: where did I come from, where am I going, and why am I here? Not only can we discover new answers to old questions but we can understand the old questions in new ways.

Mobility of Consciousness. Perhaps one of the most important illuminations brought to us by modern science is that our everyday sensory experiences are quite unreliable in many fundamental matters. Seemingly hard matter is composed largely of space. The shortest distance between two points in the heavens is a curved line. Parallel lines don't converge at a distance as our eyes tell us. We perceive reality in other words, through empirical senses that both distort and restrict our awareness of what exists. A trickle of consciousness is all we seem to have in our three dimensional prison except for those occasional moments when creative flashes and peak experiences allow us for the moment to see things as they really are.

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The capacity for increasing this trickle of consciousness however is very great for we can learn to use our consciousness to tune into, feel and understand the energies of the realities that surround us. In the immediate future, the more advanced educated person will be able to use his or her consciousness to tune into the energy of a tree, a rock or an animal; music, a painting, the energy behind words--and in the process begin to discover the knowledge contained in each. Future research with plants and animals, for instance, will probably be done largely by projecting one's consciousness into the animal or plant and studying their systems in living color and motion.

Peacefulness. There is an old saying that a nation which hates war will never find peace. It is only a nation that loves peace that will really find peace. And the same thing can be said about individuals. Only people who love peace will find it. Peace is an internal state; not a place, but something you carry within you; a condition of the soul, an attitude of harmlessness toward all. The educated person of tomorrow will be a lover of peace, will emanate radiations of peace and draw peaceful energies to himself or herself. I believe one of the most powerful tests of one's literacy in the future will be the depth to which peacefulness and a love for peace have penetrated a person's being.

Love and Service. But the final litmus test for the educated person in the New Age will be the extent love of others and service to others is actualized in one's life. The love thus expressed will not be mere sentimentalism or emotional caring. Rather, in its most complete form it will be a fully detached and impersonal love; a love above petty passions, ego entanglements and selfish urges; effortless in its flow; deeply sensitive to another's needs, discriminating, and capable of seeing all sides of an issue so the most practical advice may be given. From such love inevitably comes a deep desire to serve others; to share one's talents, one's time and one's resources; to give so that others may grow and realize their humanity.

Such love and service will be ideals to strive for even though the pathway be long. Still, the goals of love and service will be the center of all that makes and sustains the literate person. Love and service will thus become the hallmarks of literacy, the purposes of all humane education, and the criteria for evaluating the success of any educational experience.

Many other knowledge, attitudes and skills will of course also be needed including reading, math, science, and so forth plus a host of practical technical skills. While my list is incomplete and only suggestive of what tomorrow's educated person might be like, I hope it at least indicates a literacy spectrum that extends from the psycho-motor, the cognitive and affective, to the mystical. To focus only on one end of the spectrum as we have traditionally done in education, will be seen as dangerously narrow and leading to the development of illiterate, dysfunctional people. The educated person of the future will need to be well integrated across the entire spectrum and well developed at each point along the spectrum.

While not a saint by any means, the literate individual will clearly be a more caring, aware, and sensitive person; someone less drawn to newness and bigness for its own sake; less subject to propaganda and political coercion; someone who demands quality products and quality interpersonal relationships; someone globally conscious, ecologically sensitive and committed to international justice and cooperation; and certainly someone who refuses to condone race bias, sex role stereotyping and artificial age barriers.

Helping to develop this kind of educated person will be the primary task and challenge confronting us as a society during the coming decades. How we might do this is not fully clear but the energies already available to assist us and the urgency to accomplish our task will be powerful motivators. As a focusing point, a career education appropriate for the great world drama in progress gives us an excellent opportunity to hasten the transition.

Naturally, a process of formal education rather different from what we have today will be required. Certainly there would have to be a restructuring of a great deal of the present content and organization of knowledge, a basic reordering of our values toward young people, and a fundamental alternation of the current model of schooling.

There is no reason however, why every child cannot be involved in liberal studies and develop a marketable skill before graduation from any secondary type school.

A New Career Curriculum

Even today's schools could teach young people such things as (1) how to use basic tools and make ordinary house and car repairs, (2) job interviewing techniques, (3)

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personal financial planning, (4) general attitudes and behaviors found helpful to maintain employment--and at the same time most secondary schools could have programs in which the school serves as a middleman to offer both paying work opportunities as well as chances for social service responsibilities in the community.

What is needed is a unity and synthesis of curricula rather than an arbitrary division into vocation and academic components with its economic and class distinctions. The young person who has always worked with his or her mind but has no sense of the workplace or physical tools, is as dysfunctional for the future as the young person who knows a trade but lacks a global awareness, an appreciation of the past, or who lacks an intimacy with the great masterpieces of art, music and philosophy.

What is essential is to develop a curriculum that can help young people find a work to do in life. Such a curriculum will have long term objectives because discovering who one is, is a gradual process of exploration and unfoldment; of gradually uncovering and testing one's latent talents and interests. By its very nature, this sort of curriculum must combine what we today call academic and vocational training within an expanded liberal arts base. On the vocational side, one must know about different occupations and be able to experience what is done in these occupations if personal interests and talents are to surface. On the academic side, one needs to know something about history and philosophy and art if one is to understand the forces that drive one inwardly and impel one from without. In both cases students are discovering who they are and finding a space in which they can wrestle with life and disclose themselves.

This kind of curriculum has not been created yet in New Age terms but educators can begin to work with its spirit and try to clarify its theoretical goals and practical objectives. Several tests of the quality of a school's efforts would be if students understand: (1) the differences between work, job, recreation and leisure, (2) that one's work and one's job may not be the same in life, i.e., that one need feel no guilt or anxiety if what one does is not the same as the way one supports oneself. And one may have many jobs but only one work or career which one comes to understand slowly and progressively, (3) that a work to do in life is an expression of who the person understands himself or herself to be, and (4) that the end result of a work to do is to provide love and service to others.

Thus, to simply add a career education component to a school curriculum may be a good beginning approach to create bridges between the old and the new curricula--but such a component should not be seen as a substitute for the integrated approach I have tried to describe. Finding a work to do in life then becomes the central organizing theme for all curricular and extracurricular activities. This includes all activities of relaxation, spontaneity and leisure for there are certain parts of oneself that cannot be known unless one can relax in the deep nourishment of leisure. (Properly understood, leisure becomes the overall organizing theme for all education. Finding a work to do is then the pathway or introduction to leisure. For some time however, in our civilization we may find it easier to speak to people about finding a work as the basic theme, rather than leisure.) Career education (finding a work to do in life) can truly become a bridge between school and work. However, not a sequential bridge as it is now, but a bridge with many spans that integrate school and work around an evolving career.

Conclusion

Tomorrow's educated person will be a rather unique kind of person in human affairs. Not a saint or mystic by any means because some of the cussedness of human nature will no doubt be with us for a long time to come. Nevertheless, the literate individual will be someone much more in tune with themselves, their natural environment, their fellow human beings and their physical, emotional, mental and spiritual worlds. What is truly exciting about the new literacy is that it is not reserved just for young people or for future generations but is open to anyone in the present who sincerely wishes to touch into its energies.

In closing, I offer the image of a group of Native American Indians hollowing out a canoe. As they work, they chant a song, the words of which give the directions for hollowing out the canoe and at the same time are a prayer to God. What a marvelous example of an integrated life and process of education! No arbitrary and contrived experience here. Perhaps it will be some time before we develop something as good or better but we can at least move down the right pathway toward tomorrow's literacy and ask the right questions.

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Footnotes

[1]I am indebted to Fritjof Capra in his book The Tao of Physics (Berkeley, California: Shambhala Publications, Inc. 1975) for his very lucid and scholarly view of the transition modern physics went through.

[2]Again Capra (footnote 3).

[3]For example, see The Medium, the Mystic and the Physicist by Lawrence Leshan, New York: Ballantine Books, 1966; Space, Time and Beyond by Bob Toben, New York: E. P. Dutton and Co., 1975; Fabric of the Universe by Denis Postle, New York: Crown Publishers, 1976.

[4]The Roots of Coincidence by Arthur Koestler. New York: Vintage Books, 1972.

[5]It is not appropriate to give a lengthy bibliography here but the following are of special interest. Life after Life by Raymond A. Moody, Jr. New York: Bantam Books, 1976; Reflections on Life After Life by Raymond A. Moody, Jr. New York: Bantam Books, 1977; Photographing the Non-material World by K. Johnson. New York: Hawthorn Books, Inc., 1975.

[6]We will probably discover however, that the new models will bear striking resemblance to more ancient traditions.

[7]Pitirim Sorokin in The Basic Trends of Our Times (New Haven, Conn.: College and University Press, 1964) discusses this well.

[8]See Fred Polak's pioneering work The Image of the Future, Elsevier, 1972. And for a more recent treatment, Images of the Future: The Twenty-first Century and Beyond. Robert Bundy (ed.) Buffalo, New York: Prometheus Press, 1976.

[8a]I find Thomas Green's analysis of work, job and leisure very helpful. See Work, Leisure and the American Schools. New York: Random House, 1968.

[9]This listing pretty well follows Daniel Bell's description of the purposes of liberal arts in The Reforming of General Education. New York: Columbia University Press, 1966.

[10]Walter Kerr has an excellent treatment of this shift of utilitarianism in The Decline of Pleasure. New York: Simon and Schuster, 1962.

[11]See The Academic Revolution by Christopher Jencks and David Riesman (New York: Doubleday and Company, 1968) for a thorough treatment of the transformation of American higher education during this century.

[12]Some excellent references on the nature of leisure are Green (footnote 8a); Of Time Work and Leisure by Sebastian de Grazia. New York: The Twentieth Century Fund, 1962; Leisure the Basis of Culture by Josef Pieper. New York: Pantheon Books, 1952.

[13]I have described in some detail the characteristics of a superindustrial society in "Social Visions and Educational Futures". Phi Delta Kappan, September, 1976.

[14]Two books that make this point very clearly are Tools for Conviviality by Ivan Illich. New York: Harper & Row, 1973; Small is Beautiful by E. F. Schumacher. New York: Harper & Row, 1973.

[15]See The Age of Discontinuity by Peter Drucker. New York: Harper & Row Publishers, 1969.

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The Politics of Implementing Education and Work Programs

Marion W. Pines

Manpower policy is not new in the United States. It was crystallized probably most concretely, in the early 1960's by the Manpower Development and Training Act (MDTA), in response to what many people perceived as the serious threat of automation. Automation, according to the conventional wisdom of the day, would throw people out of work, who would then require massive doses of retraining. MDTA therefore was not focused on the economically disadvantaged. Rather, it was focused on the worker in need of retraining, because he or she was going to be technologically unemployed. Hard on the heels of MDTA came the War on Poverty, and the Civil Rights legislation: those dual movements of the mid 60's that began to channel our whole public policy direction toward working with the disadvantaged and working particularly with minorities. A myriad of manpower program activities developed as part of the War on Poverty package: the Neighborhood Youth Corps, the Job Corps, the Concentrated Employment Program, Operation Mainstream, New Careers,...and so on. By the end of the 60's, there were over 10,000 manpower training program contracts operated by the federal government, mostly by the Department of Labor, but including other federal agencies as well. In the late 60's, Dan Krieger at Michigan State University published a now-famous diagram demonstrating the Rube Goldberg criss-cross currents of program activities that were being administered and supposedly managed by the Federal Government at that time. As contractor, The Federal Government was making the decisions about who ought to be served and the most appropriate mode in which they should be served. The federal government then translated those decisions into contracts with local vendors to deliver the services. It is certainly not clear who, if anyone, was held accountable for outcomes in those days. The fact of the matter is that there was very little management; there was very little determination of outcomes. Some evaluation studies were mounted, and after a few years, there was growing concensus that this unwieldy morass did not constitute a well-managed national manpower system. In 1969, 1970, and 1971, there were several efforts made in Congress to try and pull this training activity together into something more comprehensive and comprehensible. But the early efforts were aborted. What finally evolved, in 1972, was a firm acknowledgement that Washington may not be the fount of all knowledge and wisdom. There was general agreement that local governments might better understand their local markets problems, might better determine their appropriate mix of services and their local vendors of demonstrated effectiveness.

What finally emerged as part of the Nixon administration's New Federalism, was the Comprehensive Employment and Training Act of 1973, now popularly (or unpopularly) known as CETA. CETA was signed into law December 18, 1973, to be implemented the following July 1. At the cornerstone of this legislaton was the recognition that local governments were going to have accountability for the funds that were to be distributed by formula and the outputs of their locally determined mix of services. Grantsmanship was no longer as fashionable or as necessary as it once was. Of course, grantsmanship will never be out of style as long as there is any discretionary money around. But in CETA law, the percentage of funds to be distributed by formula and the percentage earmarked for discretionary distribution was spelled out, and the bulk of the funds were to be distributed by formula. It's important to be aware of this whole formula phenomena, particularly with the new emphasis on block grants. There's something about the concept of block grants that is very seductive...less paperwork, less administrative headaches, etc. The potential problem is that if the block grants are not constructed by formula factors that target funds to areas of need, we're going to watch that money move directly to the new population centers in the sunbelt. If the only variables factored into formulas are concerned with population, and we do not include variables that speak to low income, that speak to unemployment, that speak to the degree of disability that we are trying to address, then the block grants will not really address needs. That's an extremely important consideration to be aware of in any public dialogue about block grants.

That is one of the issues that has created political dispute about the CETA system almost from the day it was born. Initially, CETA was to be a decategorized and decentralized system administered through 402 prime sponsors. A Prime Sponsor is any local government that has at least 100,000 residents under its jurisdiction. After much political debate 100,000 was the agreed cut-off point. Some people in New England wanted sponsorship scaled down to 2,500, some big city mayors wanted it up to half a million. A political compromise was finally agreed to. The money was to go from the federal government directly to local government by formula factors that take into consideration the number of low income residents, and the numbers of unemployed. It is important to understand that when these formulas are constructed, government computers work day and night to distribute the print-outs to Congressional committees.

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Each member of Congress immediately looks to see how much his home district gets. If they don't think their home district gets "a fair share", the formula gets reworked. So the construction of the formulas is very often a complex political process. The other half of the description of CETA was "decategorized." That means the federal government will not mandate that funds shall be spent on the Neighborhood Youth Corps, on vocational education, or remedial education, or work experience or any specific program activity. It is saying: Here is the money...determine what your local labor market needs are...determine who needs service...determine the mix of services...determine the vendors, but we will hold you responsible for the outcomes. Is this putting the money on the stump and walking away and letting local governments do what they want? Is this revenue sharing? Is this special purpose revenue sharing? The first year of CETA the feds couldn't decide. Their attitude toward the local prime sponsors was--" it's their money; they're going to be held responsible for the outcomes, let's not tell them what to do." By the second year it was: "Hey, wait a minute, this is money administered by the federal government, we do have some responsibilities here." Increasingly over the years the federal presence has become stronger, and stronger, and stronger.

But on July 1, 1974, the new decentralized, decategorized manpower policy process started. Local governments thought they had an empty stage; no key players had been assigned roles by legislation. Many prime sponsors thought they could create an entirely new ballgame. Of course, the fact of the matter was they couldn't. There were many institutional players already on stage, who were out to claim their piece of the action. School systems, the state employment service, community colleges, employer groups, organized labor,...everyone was bying for a share of the CETA funds. Understandably, there was a lot of jockeying around to see how this local agenda--this local mix--this local employment and training system would be constructed. It is important to remember that it is a different mix and a different system in every local jurisdiction. So it is impossible to describe "THE CETA PROGRAM" and think you're talking about a national CETA program. Because of the local discretion allowed that has been described, there are 475 different program designs and local delivery systems.

A retrospective review of the 1974-75 economic environment helps to better understand today's situation. Six months after CETA implementation on July 1, 1974 the country was struggling with the deep and persistent '74-'75 recession. The Congressional response was to pass a major Public Service Employment Program as a new title of CETA. This authorized a new infusion of funds to be pumped through the CETA system. However, contrary to the original "decategorized" mandate, these new funds were specifically targeted only for job creation in the public sector. Under the economic stimulus package of the Carter Administration passed 2 1/2 years later in May 1977, the funds tripled, escalating public job creation from 300,000 slots to a level of 750,000 jobs almost overnight. In the eyes of the public, Public Service Employment (PSE) became synonymous with CETA. In most communities throughout the nation, public service job creation became the major CETA activity. As a result, the training aspects of CETA took a backseat. While Public Service Employment has been an important program activity under CETA, (certainly the most visible) it is not the only program activity. PSE was created for a special purpose and that was to combat unemployment. The strategy was designed as a safety valve to compensate for a sluggish economy was not expanding rapidly enough nor responsively enough for the structurally and frictionally unemployed. There were simply not enough jobs in the private sector. Under the PSE scenario, job creation was planned to relieve unemployment on a temporary basis by giving people useful public work. Implementation instructions from Washington were "rush, rush, rush." "Get the people recruited. Make sure they meet eligibility criteria. Get them assigned and make sure the work was useful." That task was accomplished well in most areas but not as well in a few others. As indicated, the national emphasis was on speed. There was very little national emphasis on quality, and very little direction for establishing management systems to prevent abuse. And so there were occasional abuses. And the abuses became front page news. In 1978, the Reader's Digest did a story on fraud and abuse in the CETA system. The article was distributed to every member of Congress and continues to haunt the system to this day. Those stories fixed in the public mind a negative image of CETA. Even though the culprit was some selectively mismanaged Public Service Employment programs administered by CETA prime sponsors, the image of CETA became tainted in every community.

This negative environment led to the exceedingly restrictive 1978 amendments to the original CETA legislation. These amendments totally redirected the program and moved it dramatically away from its original decategorized nature. The law now mandated service exclusively to the economically disadvantaged, as determined by income and unemployment status. Prior to this, Rockefeller's son could have been eligible for CETA (legally, not morally), as long as he had been unemployed for seven days.

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So, starting in 1978, CETA became a highly targeted piece of legislation. "Significant segments" of the population became very important. There is a list of population sub-groups enfranchised for service by CETA that includes every special interest group who could get hold of a Congressman's ear to get themselves identified in the legislation. Veterans, offenders, handicapped, displaced homemakers, youth, people with limited English speaking ability, the elderly, and many other groups now felt entitled to those CETA funded services. The pressures on local government to begin to serve over growing numbers who felt "entitled" to these services became a very severe pressure with which to cope. At the same time, the new amendments mandated management systems that were long overdue: eligibility verification systems, fiscal accountability systems, management information systems, monitoring systems were now required as certificable evidences of good management.

Another important thrust of the 1978 amendments was the increasing emphasis on community based organizations (CBO) as delivery agents. These CBO's apparently were perceived to have greater empathy with the population sub-groups that were to be served. The prime sponsors were pressured into having a large percentage of the local delivery system contracted to community based organizations, often without the necessary fiscal and data management safeguards in place. Today, after the fact, the audit proess is raising issues of questioned costs and audit exceptions and these community based organizations do not have the non-CETA resources to settle the claims. So the prime sponsor (i.e., local government) has to assume responsibility and liability. That is the uncomfortable and unpopular predicament that many local governments are facing today.

The third major policy shift in 1978 was a move toward a recognition of the need for national performance standards within a decentralized system. The negotiating process has been delicate and an interesting compromise is being proposed for 1982 which will factor in local options and local economic conditions to achieve the national goal of job placement and higher income. For prime sponsors to survive on a day to day and year to year basis, they must be very aware that we operate in a political environment. Decisions are made by elected officials at every level of government based on what they perceive to be activities and outputs they can defend. So our survival is dependent upon producing! desirable outcomes and making it known that we are producing them. I think one is as important as the other. From the inception of our prime sponsorship in Baltimore, we have had a public information office whose job it is to crystallize what we do, make it known, and invite people from the Hill over to see how and what we are doing. Congressional staff are key people in the legislative process. If they see what we're doing and understand what we're doing, that can get translated into important legislative proposals. I consider it a very important part of my job to make sure the people in Washington are well-informed about what we're doing and about how well it works. Mayor Schaefer, who I am proud to work for, is over in Washington now trying to point out to Congress what the impacts of the Reagan budget proposals will mean to our city. He starts his presentation by saying: "I want to thank you for what you have done for my city. Baltimore has undergone a renaissance. It was a dying city ten years ago. It has undergone a physical, spiritual, and cultural transformation. There's not a doubt in our minds that we could not have done that without the kind of federal funds that you have given us." So the first thing he's doing is thanking them, and the second thing he's doing is giving them praise for having made these wise decisions, and the third point is trying to show them how this money has been used. That is a very important thing to do, and not enough of us understand that. One of the reasons Congressmen don't like revenue sharing and one of the reasons Congressmen love special categorical grants is because they can point to a special grant award and say: "I did this for this community. I passed this piece of legislation, and I got this post office built." With revenue sharing, they can't point to anything specific. The results are too vague and nebulous. That is one key reason why there is not a great deal of support for revenue sharing in Congress because they can't point to something concrete that they brought to their communities. That's one of the political problems we face in block granting.

Clearly, we're at a real crossroads under this new administration. There is now severe retrenchment. There's now an acknowledgement and a kind of despair that we have spent a lot of money trying to cope with problems over the last few years and we still have the problems. Now the question is, do we still have the problems because the programs have failed or do we have the problems because our economy and many of our institutions are malfunctioning? Should there be another way of trying to get that economy moving? I'm not qualified to discuss the pros and cons of supply side economics. But we must acknowledge that we are dismantling the support structure on the demand side with a hope and prayer that the supply side stimulus is going to work. This very sudden and disruptive dismantling of the economic, social, educational and health infrastructure that has been developed over the last 50 years causes many of us real concern. The dismantling is happening almost overnight under the guise of an appropriate response to the electoral mandate. In addition to slashing the '82 budget,

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recessions and deferrals were imposed on the FY '81 budget. In terms of public service employment, this came when 350,000 people were still employed. Overnight, the CETA prime sponsorship system had to start dumping people. We are thrusting 3,000 disadvantaged new workers on the Baltimore economy in an 8 week period. Two hundred fifty people will be laid off each week until June 5. It is almost unfair to expect the private sector to react quickly enough to absorb that large number of people in such a short time. And the scenario repeats in community after community across the country. Moreover, we're going to continue to have to outlay funds to service these former PSE's. We're going to be paying unemployment insurance, and we're going to be paying welfare costs and I think we may be facing other social costs as well. But the die has been cast and the dismantling is well underway.

As far as CETA is concerned, the dismantling has also reached the youth programs. In 1978, another new title was added to CETA that gave special attention and new funding for the creation of services for youth. The extra resources for youth were part of a growing recognition in this country that we had a severe youth unemployment problem that reached frightening proportions of 50% for Blacks and Hispanics. While the situation was ominous, it also presented a politically potent opportunity with strong bipartisan appeal. The Youth Employment and Demonstration Act was passed, funded with a billion dollars to be administered through the CETA funnel for youth "knowledge development." This was part of the CETA roller coaster ride on the way up. One of the largest demonstration projects mounted under this new title was called the Youth Incentive Entitlement Program piloted in 17 sites, 7 of which had major grants amounting to multi-millions per year. The basic hypothesis to "entitlement" was that poor kids drop out of school because they need money and that maybe if they had a job while in school they would stay there. In addition, for kids who had already dropped out of school, if we could somehow get them hooked up with an educational process and a job, they might tend to make better workers in the long run. And if we could subsidize some of those jobs in the private sector, employers might be exposed to kids as future workers...kids they would not normally hire. So the basis of this project was a guaranteed job for every 16 to 19 year old truly poor youth within designated geographic areas in each of the seven sites. This was a competitive grant, and Baltimore applied for it and won. We received over 20 million dollars a year for the past three years to test the hypothesis.

Immediately we learned that we had to design many alternative education programs because the drop outs did not want to go back to their traditional schools. So 8 different models of alternative education programs emerged to deal with kids at an astonishing range of functional levels. The other important task was to find useful work for 8,000 kids. At the same time, we were in the midst of the huge PSE buildup described earlier. The amount of public job creation and stimulation that was going on in the community was unprecedented. And as mentioned earlier, for the first time under the youth entitlement program, we could test subsidizing jobs in the private sector. By keeping the youth on the public payroll, we could reduce the employer's exposure to and cost for workman's compensation, unemployment insurance, social security, etc. What we wanted and needed for those kids was the work environment of the private sector that is difficult to simulate. And we wanted employers to take a low-risk look at kids they normally would reject. We were able to get about 250 local employers to participate. The Entitlement program is also a major research effort by the Manpower Development and Research Corporation in New York and Abt Associates. Interesting data will be produced for several years to come in terms of school retention, labor market participation rates and private sector partnerships. But this program is also being eliminated.

I'm afraid that my brief description of the politics of implementing manpower programs sounds a bit like a roller coaster ride, with no one at the controls. I can assure you, at times, it has felt like that. However, we understand our primary role as brokers and as managers. Brokering local economic and community development agendas with federal regulations and mandates is often a delicate balancing act.

As described in this paper, the CETA system is a very dynamic system that varies greatly from community to community. Our best tools are our dollar resources, (although shrinking) our management systems, and our knowledge of our communities that has been learned over the years. These tools allow us to implement the kind of quality program activities that give the community a sense of confidence in this whole process.

If a clear and focused local agenda is developed and articulated much can be accomplished. I think the city of Baltimore is fairly clear in what we're trying to get done:

- improve worker skills and employability
- stabilize neighborhood communities
- stimulate economic development

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All of our CETA resources are put into program activities that support and reinforce those goals. And that's how we were able to get a lot of people to go along and stay along with us.

We have all suffered from the gyrations in national policy over the past seven years. And as I've described, the CETA system has been on a continual roller coaster. For the years ahead, I think there will be much more emphasis on occupational skill training which culminates in job placement in the hopefully expanding private sector. Public service employment is certainly out right now. If supply side economics don't work and we go into an economic spin, it's entirely possible that something not called Public Service Employment but something like it will return. Certainly "workfare" looks like a close relative. But having some historical perspective, developing political antennae, and retaining a commitment to the full development of human capital, helps us cope with this dark hour.

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